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HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.

JANUARY—JUNE.

1855.

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THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS:

TOGETHER WITH A

SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND
THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

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Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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Dublin Hospital Gazette.
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Deutsche Klinik.
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Zeitschrift für Rationelle Medicin.

ITALIAN.

Annali Universali di Medicina.

N.B. Every periodical here specified is consulted *directly* by the Editors and their Coadjutors.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) HYGIENE.

ART. 1.—*On the disinfecting properties of Charcoal, especially in "Respirators."* By Dr. JOHN STENHOUSE, F.R.S., Lecturer on Chemistry in St. Bartholomew's Hospital.

(*The Times*, Nov. 22, 1854.)

THIS subject was brought before the Royal Medico-Chirurgical Society on Nov. 28th, and specimens of the respirators were exhibited, but no detailed account of the meeting has appeared as yet, and we therefore borrow the subjoined particulars from the 'Times,' where they appeared in a letter to the editor. Dr. Stenhouse writes:

"Charcoal not only absorbs effluvia and gaseous bodies, but, especially when in contact with atmospheric air, rapidly oxidizes and destroys many of the easily alterable ones, by resolving them into the simplest combinations they are capable of forming, which are chiefly water and carbonic acid.

"It is on this oxidizing property of charcoal as well as on its absorbent power that its efficacy as a deodorizing and disinfecting agent chiefly depends.

"Effluvia and miasmata are usually regarded as highly organized, nitrogenous, easily alterable bodies. When these are absorbed by charcoal, they come in contact with highly condensed oxygen gas, which exists within the pores of all charcoal which has been exposed to the air, even for a few minutes; in this way they are oxidized and destroyed. My attention has been specially directed for nearly a twelvemonth to the deodorizing and disinfecting properties of charcoal, and I have made an immense number of experiments on this subject.

"On the 22d of February last I brought the subject before the Society of Arts, and on that occasion exhibited a specimen of a charcoal respirator, and the mode of employing it. I likewise dwelt at some length on the utility of charcoal powder as a means of preventing the escape of noxious effluvia from churchyards, and from dead bodies on board ship and in other situations.

"On the 9th of June last I also, in a letter to the Society of Arts, proposed to employ charcoal ventilators, consisting of a thin layer of charcoal enclosed between two sheets of wire gauze, to purify the foul air which is apt to accumulate in water-closets, in the close wards of hospitals, and in the impure atmospheres of many of the back courts and mews-lanes of large cities, all the impurities being absorbed and retained by the charcoal, while a current of pure air alone is admitted into the neighbouring apartments.

"In this way pure air is obtained from exceedingly impure sources. Such an arrangement as this, carried out on a pretty large scale, would be especially useful to persons necessitated to live in pestiferous districts within the tropics, where the miasmata of ague, yellow fever, and other diseases are prevalent.

"The proper amount of air required by houses in such situations might be admitted through sheets of wire gauze or coarse canvas, containing a thin layer of coarse charcoal powder.

"Under such circumstances also pillows stuffed with powdered charcoal, and bed-coverlets having the same material quilted into them, could not fail to prove highly beneficial.

"A tolerably thick charcoal ventilator, such as I have just described, could be very advantageously applied to the gully-holes of our common sewers, and to the sinks in private dwellings, the foul water in both cases being carried into the drain by means of tolerably wide syphon pipes, retaining always about a couple of inches of water.

"Such an arrangement would effectually prevent the escape of any effluvia, would be easy of construction, and not likely to get soon out of order.

"The charcoal respirators to which I have already referred, and to which I should wish to draw especial attention, are of three kinds.

"The first form of the respirator is constructed for the mouth alone, and does not differ in appearance from an ordinary respirator, but is only half its weight, and about one fifth of its price.

"The air is made to pass through a quarter of an inch of coarsely powdered charcoal, retained in its place by two sheets of silvered wire gauze covered over with thin woollen cloth, by which means its temperature is greatly increased. This charcoal respirator possesses several advantages over the respirators ordinarily in use :

"1st. Where the breath is at all fetid, which is usually the case in diseases of the chest, under many forms of dyspepsia, &c., the disagreeable effluvia are absorbed by the charcoal, so that comparatively pure air alone is inspired. This, I think, may occasionally exert a beneficial influence on diseases of the throat and lungs.

"2d. The charcoal respirator for the mouth alone will certainly prove highly useful in poisonous atmospheres, where miasmata abound, if the simple precaution is only observed of inspiring the air by the mouth and expiring it by the nostrils.

"The second form of respirator is ori-nasal—that is, embracing both the mouth and the nose. It is only very slightly larger than the one already described, and does not cover the nose as the ordinary ori-nasal respirator does, but merely touches its lower extremity, to which it is adapted by means of a piece of flexible metal covered with soft leather. When this respirator is worn, no air enters the lungs without first passing through the charcoal, and any effluvia or miasmata contained in the atmosphere are absorbed and oxidized by the charcoal. This form of the respirator, therefore, is peculiarly adapted for protecting the wearer against fevers and other infectious diseases.

"The third form of the respirator is also ori-nasal, but is much larger, and therefore more cumbersome than the preceding variety. It is intended chiefly for use in chemical works, common sewers, &c., to protect the workmen from the noxious effects of the deleterious gases to which they are frequently exposed.

"I am aware that some persons, who admit the deodorizing properties of charcoal, deny that it acts as a disinfectant. I would direct the attention of such persons to the following statement of facts: About a year ago the bodies of a full-grown cat and two rats were placed in open pans, and covered by two inches of powdered charcoal. The pans have stood during all that time in my laboratory, and though it is generally very warm, not the slightest smell has ever been perceptible, nor have any injurious effects been experienced by any of the nine or ten persons by whom the laboratory is daily frequented.

"Now, had the bodies of these animals been left to putrify under ordinary circumstances, not only would the stench emitted have been intolerable, but some of the persons would certainly have been struck down by fever or other malignant disorders. Within the last few months charcoal powder has been most successfully employed both at St. Mary's and St. Bartholomew's Hospitals, to arrest the progress of gangrene and other putrid sores. The charcoal does not require to be put immediately in contact with the sores, but is placed above the dressings, not unfrequently quilted loosely into a little cotton wool. In many cases patients who were rapidly sinking have been restored to health.

"In the instance of hospital gangrene, we have to deal not only with effluvia, but also with real miasmata; for, as is well known, the poisonous gases emitted by gangrenous sores not only affect the individual with whom the mischief has originated, but readily infect the perfectly healthy wounds of any individuals who may happen to be in its vicinity. So that in this way gangrene has been known to spread

not only through one ward, but through several wards of the same hospital.

"Within the last few weeks the dissecting room at St. Bartholomew's Hospital has been perfectly deodorized by means of a few trays filled with a thin layer of freshly heated wood charcoal. A similar arrangement will, in all probability, be likewise soon applied to the wards of St. Bartholomew's, and every other well-conducted hospital.

"From these and other considerations, therefore, I feel perfectly confident that charcoal will prove by far the cheapest and best disinfectant.

"Unlike many other disinfectants, it evolves no disagreeable vapours, and if heated in close vessels, will always act, however long it has been in use, quite as effectively as at first.

"If our soldiers and sailors, therefore, when placed in unhealthy situations, were furnished with charcoal respirators, such as the second form above described, and if the floors of the tents and the lower decks of ships were covered by a thin layer of freshly burnt wood charcoal, I think we could have little in future to apprehend from the ravages of cholera, yellow fever, and similar diseases, by which our forces have of late been decimated. If found more convenient, the charcoal powder might be covered with coarse canvas, without its disinfectant properties being materially impaired.

"The efficiency of the charcoal may be greatly increased by making it red-hot before using it. This can easily be done by heating it in an iron saucepan covered by an iron lid.

"When the charcoal is to be applied to inflammable substances, such as wooden floors, &c., of course it must be allowed to cool in close vessels before being used."

ART. 2.—*The baneful effects of extreme Cold.*

By _____

(*Medical Times and Gazette*, March 3, 1855.)

The late frost, which has been more continued and severe than any which has occurred in England since the year 1814, and as severe and prolonged as this—indeed there was only a difference of 2° in the mean temperature, and of two days in the duration of these two remarkable frosts—furnishes a striking illustration of the baneful effects of increased cold, as may be seen in the subjoined quotation "In the six weeks of severe frost, the deaths of 9408 persons have been registered. These deaths exceed the average by 1968; which appear under various diseases, and were the indirect results of the low temperature. The temperature of the six weeks was 28·4° on an average, and the deaths were nearly 100 weekly to every degree of depression below the freezing point of water. But the cold affected persons very differently, according to their age; for in the five weeks that ended on Feb. 17th, at the first age of manhood (20 to 40), the cold did not destroy 2 in 10,000; at the age of 60 to

80 it was fatal to 38 in 10,000. If the average deaths at each of the five ages are subtracted from the deaths in the five weeks of cold weather, the numbers that are left represent the deaths by cold are 367 children and youths under 20; 159 young men and women of 20—40; 290 middle-aged persons of 40—60; 561 of 60—80; and 173 of 80 and upwards. Upon dividing these numbers by the persons living of the corresponding ages, we find that the mortality by cold in the 100,000 was at the rate of 35 under the age of 20, and 18, 64, 382, and 1749 at the four subsequent ages. The above numbers show that the power of cold on life varies according to definite laws; thus the mortality by cold is (35) twice as great under the age of 20 as the mortality (18) at 20—40; but, after that turning point, the power of resisting cold decreases every year, and men of 90 and men of 30 have suffered from the cold that we have experienced in the proportion of 100 to 1 (or of 1749 to 17·5). The general result is, that the danger after 30 of dying of cold is doubled every nine years of age; for out of the same numbers living, to 1 death by cold at the age of 30, there are 2 at 39; 4 at the age of 48; 8 at the age of 57; 16 at the age of 66; 32 at the age of 75; and 64 at the age of 84. This series at least expresses very nearly the relative mortality by cold at the respective ages during five weeks among two and a half millions of people."

ART. 3.—*The value of Instinct in the choice of Diet.*

By Mr. THOMAS HUNT.

(*Association Medical Journal*, April 13, 1855.)

In a paper of much interest, which was read before the Medical Society of London, Mr. Hunt begins by referring to the signification in which the term instinct has been used; and then proceeds to express his opinion that it is no more true to allege that man has no instinct, than to deny that the lower animals possess a certain amount of reason. In man, instinct is first exhibited by the propensity of every new-born infant to suck and swallow—a propensity prior to experience, and independent of instruction. As age advances, the tendency to suck is gradually supplanted by a tendency to bite and masticate. Instinct, indeed, presides over the whole physical life of man, regulating his diet, and suggesting how he may best preserve his existence. After some remarks on regimen, including clothing, bathing, air, bodily and mental exercise and recreation, sleep, and all essentials to health, inclusive of diet and medicine, the author proceeds to offer some observations on diet. He observes that, in the question of prescribing a proper diet, instinct is beforehand with us, both with regard to the quantity and the quality of the food; and the variations between different people, with regard to dietetic points, are adduced as showing that the instinct of the individual is a far better aid in this matter than science, which has hitherto been able to shed but a very feeble light on this intricate subject. The author believes that many cases of dyspepsia actually

originate in, or at least are aggravated by, a too rigid adherence to artificial rules of diet, a too restricted use of the good things which nature has provided, and a too strict avoidance of fruits, acids, sweets, fresh vegetables, vinous liquors, &c. We know something of the analysis of organic products; but of the process of their synthesis we are quite ignorant; and it seems presumptuous in us to dictate to the economy of digestion what materials are best suited to it. The natural sensations of the patient are far safer guides, both in health and in disease. In early fever, the appetites of man are far different from those of health; as fever advances and takes on new types, the longings of the patient vary; and sometimes articles supposed to be improper and indigestible (such as pickled walnuts, etc.), are desired, and, if the patient can only get them, he often dates his recovery from the indulgence of this apparently capricious taste. Many most distressing cases of dyspepsia may be relieved by allowing the patients every kind of food which their appetites may suggest. A variety of food is generally preferred, and is most salutary. The author relates several instances in which he had known disease of the digestive organs to be cured by the free indulgence in articles which are generally denounced as improper. There are exceptions to the rule that the instinct is the best guide. In some cases, the sensations of the palate and the stomach are disordered; as in the chlorotic female or the habitual drunkard; and sometimes we meet with cases in which persons are fond of certain substances, which, however, always "make them ill." Modern cookery, also, by setting before us a succession of spiced and savoury food, also renders the appetite morbid, and causes exceptions to the rule that instinct dictates the quality of food.

(B) ACUTE DISEASE.

ART. 4.—*On the diagnosis of Typhus and Typhoid Fever.* By (1) Dr. PARKES, Physician to University College Hospital; (2) Professor FORGET, of Strasburg; and (3) Dr. RITCHIE, Physician to the Royal Infirmary at Glasgow.

1. (*Medical Times and Gazette*, Nov. 24, 1854.)
2. (*Gaz. Méd. de Paris*, Nov. 25, 1854.)
3. (*Glasgow Med. Journal*, Oct., 1854.)

It appears to be still necessary to insist occasionally upon the non-identity of typhoid and typhus fever; and we therefore transcribe the following remarks:

1. Dr. Parkes speaks as follows in a clinical lecture:

"You are brought to see this young woman, we will say, for the first time: the specific rose-spots are gone; she is labouring to all intents and purposes under severe bronchitic and chest symptoms (a chemist, or practitioner with a druggist's shop, has prescribed, and given cough mixtures, perhaps, without seeing her); you find her respiration 30 in a minute, cough incessant, with some expectoration; nervous symptoms also well marked; vertigo complained of, torpor,

the eyes closed; she is delirious at night; she has also diarrhœa, pain over the abdomen, pulse quick, tongue furrowed and somewhat coated. Suppose, I say, you were called to such a patient, and moreover she is unable to give any account of the previous illness, how are you to make the diagnosis? There are only two ways—one the positive method, the other the method as it is called by ‘exclusion.’ The first is obvious enough, and will of course be more valuable to the practised eye of the experienced physician, who seizes the nature of the case at the first glance by a sort of intuitive knowledge of what typhoid really is. Now the method of diagnosis by exclusion—the plan of logic-writers, *per viam exclusionis*, in this and other diseases, is one, though not without disadvantages, one yet of no mean importance. The first question you resolve in your mind will be—Is she or he, as the case may be, labouring under any of the idiopathic fevers? any of the exanthemata? No. Is it typhus? You make the same answer, as the eruption in ty-*phus* is as different from ty-*phoid* as scarlatina from measles. The eruption is absent in patients under 22 or 21 (this patient’s age is about this). Is it relapsing fever, so common some years, as 1828-29? No. You ask yourself, then, is it typhoid? Yes. Nervous symptoms are marked, chest symptoms and diarrhœa also; the latter loose, granular, yellow, so peculiar to typhoid. You have soreness of the right iliac fossa; but then you say we have no rose-spots, and then you remember in at least 20 per cent. these rose-spots are not found. You must weigh and balance all these circumstances in your mind.”

2. Dr. Forget has written several elaborate articles in the ‘Gazette Médicale de Paris’ to furnish clinical proof of the non-identity of typhus and typhoid fevers.

In these articles he does not deny that typhoid fever may arise very commonly from infection; but he believes, from an experience of twenty years, that it may also proceed from a variety of causes quite foreign to it,—such as moral affections, irregularities of diet, different morbid affections of both solids and liquids. Thus, follicular inflammation may come on from local causes, idiopathic, attacking primarily the digestive canal. Typhus never appears unless under some unfavorable conditions of the atmosphere, and then it first attacks a district occupied by persons closely aggregated, and in want of proper nourishment.

By the external general aspect, severe typhoid and typhus fevers resemble one another; but, upon close inspection, certain points of difference will be observed. In follicular enteritis, the typhoid state is not constant, and is usually secondary. In typhus, the stupor and the prostration exist from the invasion of the attack, indicating a general cause acting primarily as a powerful poison.

In typhoid fever, the gastro-intestinal symptoms are more constant and more primitive, for they exist sometimes alone; and it is excessively rare to meet with cases of follicular enteritis which do not offer from the commencement the sandy, dotted, and rosy appearance of the tongue; the rumbling (*gargouillement*) and pain in the right iliac fossa, the diarrhœa or the constipation, &c. Other symptoms may dominate over these, but they do not absorb them completely;

while in typhus, especially at the commencement, the tongue is very often humid, smooth, and white; the abdomen is exempt from tympanitis and pain, and defecation is not sensibly altered. It is, nevertheless, true, that, in many instances, gastro-intestinal symptoms perfectly simulate those of follicular enteritis. Both typhus and typhoid fevers may be violently febrile or completely apyretic; either of them may present pectoral symptoms. As regards the lenticular rosy spots, represented as proper to typhoid fever, it is proved that they may not be produced in typhus. The author admits, however, that they constitute perhaps the best differential symptom. Typhoid fever is generally more slow and gradual in its progress. In simple, non-complicated cases, this uniform evolution is in exact relation to the development of the intestinal lesions. In typhus it is different; the disease acquires at the outset its greatest amount of intensity; then it oscillates, and varies from better to worse suddenly and unexpectedly. The nervous system has been acutely impressed by the morbid poison, and the ulterior accidents depend upon the variable localizations which happen to be produced. The duration of the diseases presents well-marked points of difference. While typhoid fever passes through its stages gradually, and with a quasi-fatal regularity, typhus becomes suddenly milder or more severe, and, under most unfavorable-looking aspects, may run on to cure with remarkable rapidity.

As regards treatment, it need scarcely be said, that no specific remedy has been found for the arrest of typhoid fever; the treatment must depend upon the features of each particular case; bleedings and purgatives, chlorine and mercurials, musk and bark, have respectively their proper application. But the author attaches especial importance to the management of the ulcerated digestive tube, and he forbids the administration of such stimulants as would act violently, or of any strong medicine calculated to excite irritation. In typhus fever this precept does not apply, the intestinal lesion being either absent or accidental. Whether the practitioner has to deal with cerebral, pectoral, or abdominal typhus, he need not fear, by any plan of treatment he can adopt, that he will be aggravating the intestinal ulcerations.

The same careful and scientific practitioners who, bearing in mind the ulcerated or gangrenous state of Peyer's patches of glands in typhoid fever, cease to expect to find any system of treatment by which that disease may be cut short, do not despair of finding some agent sufficiently powerful to overcome the poison which in typhus fever is the cause of its characteristic train of symptoms. Nevertheless, we do not here possess any specific; but we may remove the patient from the infected district with advantage, and place him in pure air.

3. Dr. Ritchie's remarks are the conclusions to one of a set of clinical lectures on typhus and continued fever, which is published in the 'Glasgow Medical Journal.' He says:

"In conclusion, I would submit that, in the long course of inquiry now gone over, reaching from before Hippocrates to the present day, there is continuous evidence of the existence of two separate and

essential, or primitive forms of fever, possessing many features of resemblance, and yet more of difference the one with the other, and which, ever and anon, gave occasion to discussion among medical men on their nature and relations. The one fever, or our typhus, being distinguished by independence of situation, season, or temperature, arising spontaneously from human effluvia, as in crowded camps and jails, but possessed of eminently contagious properties, and being often therefore imported from distant infected localities; having a measles-like efflorescence on the skin as early as the fourth day, profound and diversified affections of the sensorium, great prostration of the vital powers, a disposition to putrescency, and requiring cordial food, wine, and other stimulants for its treatment. A crisis, in favorable cases, taking place on the fourteenth day, followed by a good recovery; but death often happening on the twelfth day, the necroscopical appearances being chiefly negative, or only such as are occasioned by fluidity of the blood, and by softening of the solids.

“The other fever, again, or our enteric, being of indigenous origin, arising in damp and cold seasons and countries as a simple sporadic fever, but, under special climatic and hygienic conditions, developing malignant, epidemic, and also contagious qualities. Its prominent symptoms manifesting themselves much in the abdomen and thorax, the cutaneous eruption papular in form, inconstant, comparatively scanty, and appearing only about the eighth day; the disposition to crisis feeble, and seldom occurring before the twenty-first or twenty-eighth day, and the tendency to local complications so strong, that recovery often did not commence before the eightieth day. When death was the result, it was usually from inflammation, and sometimes perforation of the bowels, and the appearances on dissection were distinctive of inflammatory degeneration of the mucous membrane, the follicles, and other glands of the intestines. A moderately antiphlogistic, a soothing, cooling, and expectant treatment, such as one or two bleedings, a mild diet, fomentations to the belly, and abstinence from wine, spirits, or any kind of fermented liquor or stimulating food, was that which was suited to the disease.”

ART. 5.—On the internal use of Chloroform in Fever.

By Dr. GORDON, Physician to the Hardwicke Fever Hospital.

(*Dublin Hospital Gazette*, 1855.)

Dr. Gordon resorts to the use of chloroform in fever to subdue nervous irritation, and to procure sleep. He remarks :

“To the different means which have been made use of for this purpose, I would now add the internal administration of chloroform. I have used it with the happiest results when all other means had failed, and I can speak with confidence of its certain and speedy action. The following case affords a good example of its effects, and the mode of its administration :”

Patrick Dempsey, æt. 25, was sent from Santry to the Hardwicke Hospital,

on the 8th of December; he had been eleven days ill of fever; his body was covered with dark-coloured maculæ; his pulse was 110, and very weak, his speech muttering and indistinct; he has subsultus in both upper and lower extremities. His head was shaved, he was ordered the bark mixture of the hospital, and half a pint of wine. Late in the evening he began to rave violently, and could not be induced to remain in bed; he was ordered large doses of hyoscyamus, and the back of his head was blistered; he was so violent as to require the use of a straight waistcoat all night.

December 9.—Has not slept since admission. Pulse 132; very weak. He continues constantly muttering and raving. Tongue dry and brown; eyes slightly suffused; head not very hot; respiration short, frequent, and irregular. He still requires the straight waistcoat to keep him in bed. He was now ordered 25 minims of chloroform in a draught, to be repeated in an hour. After the second draught his agitation and restlessness ceased, and the waistcoat was removed. He dozed a little through the day, but only for a few minutes at a time. Towards night he again became restless and delirious; the same quantity of chloroform was again administered, and repeated in an hour, when he fell into a sound sleep, which continued for nine hours. He awoke perfectly sensible; the subsultus had ceased, and his pulse had fallen to 100. He continued to improve, and in a few days was convalescent.

"In this, and other similar cases, chloroform acted by producing anæsthesia of the sensory nerves, and exerting a paralyzing influence on the muscular fibre; and this it appears to effect without depressing or deranging the nervous force, as is the case with sedatives in general, while it is altogether free from the objection of causing depression of the action of the heart, as is the case with some special sedatives. My colleague, Dr. Corrigan, has just treated a somewhat similar case by the internal administration of chloroform. I had an opportunity of daily witnessing the progress of the case; and, by his permission, I here append it."

Denis Behan, æt. 20, a porter from High Street, was admitted into the Hardwicke Hospital, January 4, 1854, the fifth day of his illness.

On the 6th day he was thickly covered with bright maculæ. His tongue was loaded, but moist; his pulse 112; respiration 22; no abnormal sound in the lungs; no tenderness of abdomen. He is reported not to have slept for two nights. His eyes are red and injected, and his head hot. His head was shaved, and cold lotion applied.

7th day.—Pulse 116; respiration 28; slept but little.

8th day.—Pulse 120; very feeble; respiration 32. Ordered bark and wine.

9th day.—Pulse 126; very feeble; respiration 32; head hot; constantly raving, and getting out of bed; no sleep; subsultus of hands; tongue dry; great difficulty of utterance. Vesicatorium nuchæ; eight ounces of wine.

10th day.—Pulse 130; weak; raving continually; difficult to restrain; requiring the straight waistcoat; constant talking; no sleep; tongue brown and dry in the centre; thirsty; eyes very congested; pupils dilated. Chloroform was now administered by inhalation, without any other effect than the pulse being slightly reduced in number. The patient was in no way quieted by it. Four leeches were now applied to the temples without any good effect.

At 5 p.m. he took ʒss chloroform by the mouth, and continued it every second hour till 11 p.m., when, as he did not sleep, and the delirium continued, he took a similar dose of chloroform every hour through the night.

At 3 a.m. he was somewhat quieter, but the same dose was continued every hour till 8 a.m.

11th day, 10 a.m.—Much quieter, but has not slept. Pulse 110; pupils natural size; subsultus nearly gone; tongue brown all over; sordes on teeth; bowels free; urine high coloured, sp. gr. 1·020. Another dose of chloroform in the same quantity was again administered; about twenty minutes after its exhibition he fell into a quiet sleep, which lasted two hours. Shortly after waking, he took another half drachm of chloroform, when he almost immediately fell asleep, and awoke after several hours much refreshed and quite collected. His return to health was further indicated by the immense quantity of nitrate of urea, which an excess of nitric acid deposited from the urine.

“In the above case the chloroform was longer in producing the effects than in any instance in which I have yet used it. We learn from it, however, that we are not to be discouraged by the apparent failure of the first dose or two in procuring sleep, for, as in the present case, although actual sleep may not be at once procured, we may expect that a state of calm and quietness will be induced, which would soon be followed by sleep. We learn also from this case, that the inhalation of chloroform is, to say the least, useless in procuring sleep in cases of cerebral excitement in fever. I had, on one occasion before, in the Hardwicke Hospital, fully tried this mode of administering it; its inhalation was followed by general convulsive movements, very similar to an epileptic seizure, and I have not since administered it by inhalation in any similar case. Dr. Corrigan carefully tried the effect of inhalation three times in the above case, each time without any good effect.”

ART. 6.—*Some remarks on Cholera.*

By Mr. HEADLAND, late President of the Medical Society of London.

(*Lancet*, Oct. 31, 1854.)

In its epidemic nature, and in the general character of its symptoms, cholera is evidently a blood disease. A serious impression of some sort is made upon this fluid. The suddenness of the attack, its frequent rapidity of progress, and the speedy development in many cases of fatal symptoms, seem all to point to the more vital part of the blood as being impressed in the first instance—*i. e.*, the blood-corpuscles, and not the liquor sanguinis. And there are some other indications of this which would seem to come nearer to the nature of proofs. It has been just observed, that the coldness and blueness of the state of collapse are amongst the most characteristic of the symptoms of cholera. The process is impaired by which the animal heat is maintained. This function is generally admitted amongst physiologists to reside in the blood-corpuscles. The collapse symptoms may occur before the blood has been thickened by the copious discharge from the bowels. It has been even observed by Heller, a German microscopist, that the red corpuscles at this period appear “hacked and mutilated,” as if physically injured. The lacteal and lymphatic glands, organs engaged mainly in the manufacture of the corpuscles of the blood, are found, after death from cholera, to be softened and disorganized. Add to which, that Virchow and others have discovered in the right side of the heart, large whitish coagula, entangling multi-

tudes of white corpuscles, from which it would seem as if these had been somehow prevented from undergoing their normal development into the red cells. The blood-corpuscles being thus injured or arrested in their development, not only are the functions which are essential to life fundamentally and fatally disturbed, but the plasma apparently becomes itself affected in the second place. Now the corpuscles, being solid, cannot be ejected from the system, but the plasma is capable of excretion. Next, then, it is passed out by the mucous membrane of the bowels, as if it were a foreign material, constituting the characteristic colourless or "rice-water" discharges, which contain serum and salts, with mucous and fibrinous coagula. This theory is offered as apparently explaining the phenomena of this disease, which no other notion appears to do satisfactorily. The idea of a morbid poison to be eliminated seems hardly sufficient—the discharges, in their non-feculent character, being so much unlike those of any instance of diarrhœa observed in other diseases. The fact, that the ingeniously devised injections of saline fluids into the veins in the latter stage of cholera, have never succeeded in reviving the patient for more than a brief period, seems to indicate that the thickening of the blood is not to be considered as the sole cause of death, which is probably rather to be attributed to the extensive devitalization of that fluid. The fatality of an attack of cholera, no doubt, depends less upon the means which are adopted in the treatment, none of which have been found to control it effectually, than upon the previous condition of the patient himself, rendering him more or less obnoxious to the full effect of the poison. Some have their blood in that peculiar condition which is most likely to be influenced by this. Those who are most impressible are attacked the first, and die the fastest. Afterwards those sicken who are liable in the next degree, none of whom recover. Again, towards the end, those who are least liable, who will escape most easily of all. The epidemic, having then few or none left whose systems it can invade, takes its departure for a season, only to return again when the way is once more prepared for it. By this means we can explain what is always observed, but is at first sight difficult to understand: the terrible mortality of the first outbreak; and the lessening severity of the disease, as though it had become amenable to remedies, remarked at the close. It has been stated on good authority, that the absolute rate of mortality is not increased by the epidemic of cholera; but that on taking the average of five years, two before and two after the outbreak of this disease, the real number of deaths is about the same as usual; from which it would seem as though those who are stricken with cholera would, at no long distance of time, have perished of other blood diseases had the opportunity been left to them. This notion of blood liability seems far preferable to the idea of its being a contagious disease. Were the latter the case, it would seem strange that the disease should not spread more regularly, and remain longer at a place, instead of departing so suddenly as it does. (Several facts are here adduced as bearing decidedly against the doctrine of contagion.) The occurrence of the disorder in each case is probably to be accounted for by two distinct things—an epidemic influence, and a pre-

existing wrong in the blood of the person attacked. An atmospheric change co-operates with a systemic wrong; we need not define either, but we must admit their agency. Neither of these causes will suffice by itself. Thus a bar of soft iron will not attract a bar of steel; but if we pass a galvanic wire round the former, converting it into a temporary magnet, it will acquire a power which it had not before. The iron and the electricity together will co-operate in effecting what either alone would be powerless to do. We may learn from this conclusion that the cause of the disease is in great part a pre-existing wrong, as well as from the fatal nature of the malady, when it has once fully developed itself,—how important it is to take preventive measures in anticipation of the outbreak. These measures should no doubt mainly consist in all those means which may ameliorate the condition of the poor, or which may serve to counteract those noxious and baneful influences which render the lower and more densely populated quarters of our large towns the very hot-beds of all epidemic diseases. For this disorder is not one which is equally distributed to all classes: it is shown by the returns of the cholera deaths in 1849, that by far the largest proportion of deaths occurred amongst the labouring classes, and more of the tradesmen died than of the gentry. We may, then, well display our zeal, and evince our real interest in the welfare of our fellow-creatures, by labouring earnestly in the removal of those depressing causes which tend so fatally to shorten their lives and to thin their numbers. In remarking upon the prolific subject of treatment, the author insists strongly upon the erroneous character of the notion, so commonly entertained, of the connexion between cholera and ordinary diarrhœa.

These opinions were stated in a paper which was read at the Medical Society of London, of which paper these remarks form an abstract.

ART. 7.—*On a successful method of treating Acute Rheumatism by large and frequent doses of Bicarbonate of Potass.* By Dr. GARROD, Physician to University College Hospital.

(*Lancet*, March 3, 1855.)

In this paper the object of the author is to describe this method of treatment, and also to state the results obtained in fifty-one cases of rheumatic fever which have been admitted, under his care, in University College Hospital, during the last two years and three quarters. The main part of his plan of treatment consists in the administration, in a diluted form, of two-scruple doses of bicarbonate of potash, every two hours, day and night, until the patient has been free from all articular affection and febrile disturbance for two or three days, using local depletion over the heart's region, if any cardiac disease is present or threatened. The author then details three cases of rheumatic fever, illustrating this mode of treatment: the first, a girl, ten years old, in which the duration under treatment was five days, the total duration eight; the second, a young man, aged twenty, with a complication of heart disease, where the duration under treatment was eight, the total duration fifteen days; the third, a young woman, aged eighteen years, in the fifth attack, the former ones having always lasted for a month

or five weeks, but which, by the adoption of this plan, yielded in nine days, total duration being but thirteen days, four having elapsed before her admission into the hospital. He afterwards gives a table of fifty-one cases of acute rheumatism; and of each patient the following particulars are noted: The age, occupation, hereditary predisposition, the number and causes of attack; the symptoms before admission; the symptoms during treatment; the nature of treatment; and the duration of the disease. From these cases the following deductions are made—viz., that in twenty males the duration of the disease under treatment averaged between six and seven days, and the total duration between eleven and twelve days; and in thirty-one females the disease under treatment averaged from seven to eight days, and the total duration between fifteen and sixteen days—giving in all an average under treatment of seven days and a half; and, for the total duration, about thirteen days and a half. The author then alludes to the influence of the bicarbonate of potash when administered in large and frequent doses upon the different organs and functions of the body; and remarks, that it produces neither nausea, vomiting, nor purging—in fact, no symptom of gastro-intestinal irritation. It induces a strongly alkaline condition of the urine, causes it to effervesce freely, with excess of acid, but does not appear to promote an increase in the quantity of the secretion. It appears to render the secretion of the skin less acid—sometimes almost neutral. It acts as a powerful controller of the heart's action, reducing greatly the frequency of the pulse, but without causing the faintness often produced by digitalis, colchicum, &c. It probably increases the alkalinity of the serum of the blood, and diminishes the coagulability of the altered fibrine occurring in rheumatic fever; and hence, probably, checking or preventing the deposits of lymph on the endo- or peri-cardium. It is Dr. Garrod's opinion, that the influence of the bicarbonate was felt not only in shortening the duration of the articular affection, but also in preventing or moderating the cardiac disease. After enumerating many details of the method adopted, and the value of certain adjuncts, as opium, calomel, and occasional general depletion, the author proceeds to recommend a plan of treatment which, from his experience, he considers as calculated to ensure the greatest amount of success, and he thinks it probable that the total duration of the disease might, on the average, be reduced to about ten days,—provided the treatment be adopted early, and no serious complication existed.

ART. 8.—*On Scarlatinal Dropsy.* By Dr. TRIPE.

(*Medico-Chir. Rev.*, Jan. and July, 1854, and Jan. 1855.)

The following remarks occur in a series of original papers on scarlatinal dropsy in the '*Medico-Chirurgical Review*.' They are of great practical importance, for they are calculated to give us a clearer insight into the principles which should guide us in the treatment. This they do, by showing that the disease is far more acute in its character than is usually supposed. Dr. Tripe proceeds:

The day of invasion varies considerably, occurring sometimes during

the eruptive period of the primary disease, and in others not until after the lapse of six weeks or more from its outbreak. Most authors consider either the twentieth, twenty-first, or twenty-second day from the commencement of the disease to be that on which the effusion usually first manifests itself, but an examination of my own cases, and of the returns of the Registrar-General, shows this opinion to be incorrect; for both point to the fourteenth day from the commencement of the febrile stage as that on which the dropsy most frequently occurs. To elucidate this point, I have analyzed 41 cases which occurred in my own practice, and the returns for the year 1848.

An examination of this table shows that the fourteenth was the day on which the dropsy most frequently came on, and that, therefore, the opinion entertained by Dr. Copland and others, that the twenty-second, twenty-third, and twenty-fourth days are those on which, after the twenty-first, it most commonly happened, is erroneous. On contrasting, however, the results obtained by an examination of 41 attacks with 323 deaths registered in the returns of the Registrar-General, we find rather opposite results: 17·1 per cent. of the former came on within seven days after the commencement of the scarlet fever, and only 9·59 per cent. of the latter series of cases. (This difference may be accidental, as these 41 cases include all those which I ever remember to have had at so early a period of the disease, and exclude very many which supervened at a later period, as I have not kept a record of all my cases; these having chiefly occurred during the year 1848.) A larger number of cases also—46·4 per cent.—occurred in the second class during the second week, to 38·08 per cent. in the first class. There is also a variation of an opposite character during the third week, when 29·3 per cent. occurred in the second class to 34·16 per cent. in the first; and only 4·8 per cent. in the second class during the fourth week to 11·47 per cent. in the first. But these discrepancies may arise from the small number included in the second class, in which each case represents 2·4 per cent. of the whole, whilst in the first it represents only ·31 per cent. It is therefore evident, that an accidental occurrence of a few cases at a particular period in the second class would vitiate all the conclusions. Still the results drawn from these two opposite and independent sources lead to certain uniform conclusions, which will be presently stated.

On proceeding to a more accurate examination of the first class, we find it indicates that less than 1·0 per cent. of the dropsy occurs on any given day during the first five days of the parent disease, 1·24 per cent. on the sixth day, and 5·56 per cent. on the seventh; making a total of 9·59 per cent. during the first week. We find the proportion again to fall during the eighth and ninth days, to rise *gradually* to the thirteenth, when it reached 5·87 per cent., and then *suddenly*, on the fourteenth, to 21·67 per cent. (which was by far the highest), making a total, during the second week, of 38·08 per cent.; or of 47·67 per cent. during the first fortnight from the commencement of the fever. It also indicates that 34·66 per cent. of attacks happened during the third week, and 12·38 per cent. on the twenty-first day; that 11·47 per cent. supervened during the fourth week, 4·03 occurring

TABLE XVI.

Scarlatinal Anasarca. Day of Invasion, for the Year 1848.

Reports of Registrar-General 1st Class.			Case Book. 2d Class.	
Day of Scarlatina.	Total No. of Cases.	Per Cent.	Total No. of Cases	Per Cent.
1st	2	·62		
2d	2	·62	2	4·9
3d	2	·62	1	2·4
4th	1	·31		
5th	2	·62		
6th	4	1·24	1	2·4
7th	18	5·56	3	7·4
	—= 31	—= 9·59	—= 7	—= 17·1
8th	2	·62	1	2·4
9th	3	·93	4	9·8
10th	9	2·78		
11th	10	3·10	1	2·4
12th	10	3·10	6	14·7
13th	19	5·87	1	2·4
14th	70	21·67	6	14·3
	—= 123	—= 38·08	—= 19	—= 46·4
15th	16	4·95		
16th	4	1·24	3	7·4
17th	12	3·71	1	2·4
18th	17	5·26	1	2·4
19th	5	1·55	1	2·4
20th	18	5·57	1	2·4
21st	40	12·38	5	12·3
	—= 112	—= 34·66	—= 12	—= 29·3
22d	6	1·86	1	2·4
23d	3	·93		
24th	3	·93		
25th	6	1·86		
26th	4	1·24	1	2·4
27th	2	·62		
28th	13	4·03		
	—= 37	—= 11·47	—= 2	—= 4·8
29th	0	—		
30th	4	1·24		
31st	1	·31		
32d	2	·62		
33d	1	·31		
34th	1	·31		
35th	5	1·55		
	—= 14	—= 4·34		
5 to 6 weeks	3	·93		
6 to 7 „	2	·62	1	2·4
7 to 8 „	0	—		
8 to 9- „	1= 6	·31		
Totals	323	100·00	41	100·0

on the twenty-eighth day; that 4·34 per cent. came on during the fifth week, ·93 per cent. during the sixth week, ·62 per cent. during the seventh week, and ·31 per cent. during the ninth week. The cases in the second class indicate the seventh, ninth, twelfth, fourteenth, and twenty-first days, as those on which the disease most frequently shows itself; and those of the first class, the seventh, thirteenth, fourteenth, eighteenth, twentieth, and twenty-first days. Of the 323 deaths, 59·41 per cent. took place on the seventh, twelfth, thirteenth, fourteenth, eighteenth, twentieth, and twenty-first days; and 56·3 per cent. of the attacks also happened on the same days.

We may therefore state that the fourteenth day from the commencement of the fever is that on which the invasion of scarlatinal dropsy most frequently happens; and that the other days on which the invasion most frequently occurs, are the twenty-first, twelfth, and seventh, the order of frequency being as they are here placed; and then the thirteenth, eighteenth, and twentieth respectively; these latter presenting but slight variations as to frequency.

The duration of the dropsy, although a point of some importance as regards prognosis, is one which has not been hitherto statistically considered. The disease is usually looked on as one of rather a chronic character than otherwise, unless it prove fatal in the first stage. The following table places this point on a certain basis:

TABLE XVII.—*Scarlatina Anasarca. Duration before Death.*

Duration.	Total No. of Deaths.	Per Cent.
1 days	5	1·1
2 „	9	2·0
3 „	14	3·1
4 „	16	3·5
5 „	18	4·0
6 „	24	5·3
7 „	54	12·0
8 „	21	4·4
9 „	8	1·8
10 „	28	6·2
11 „	2	0·4
12 „	12	2·6
13 „	13	2·9
14 „	66	14·6
2 to 3 weeks	93	20·7
3 to 4 „	32	7·1
4 to 5 „	19	4·2
5 to 6 „	8	1·8
6 to 7 „	1	0·2
7 to 8 „	5	1·1
2 to 3 months	1	0·2
3 to 4 „	1	0·2
4 to 5 „	1	0·2
5 to 6 „		
Exceeding 6 months	2	0·4
Totals	452	100·0

This table shows, that out of 452 fatal cases, 28, or 6·2 per cent. deaths happened during the first three days, 16 on the fourth, and 18 on the fifth; making a total of 62, or 13·7 per cent. during the first five days; 24 on the sixth day, and 54 on the seventh; being an aggregate of 140, or 31·0 per cent., during the first week. During the second week, 149 deaths, or 32·9 per cent., occurred, in the following proportions on the different days—viz., 4·4 per cent. on the eighth, 1·8 per cent. on the ninth, 6·2 per cent. on the tenth, 0·4 per cent. on the eleventh, 2·6 per cent. on the twelfth, 2·9 per cent. on the thirteenth, and 14·6 per cent. on the fourteenth day. We thus see, that of these 452 cases, 63·9 per cent. died during the first fortnight. Of the remaining 36·1 per cent., 20·7 were fatal during the third week, making the sum of 84·6 deaths per cent. in the course of the first three weeks. It also shows that 7·1 per cent. deaths happened in the fourth week, 4·2 per cent. in the fifth week, 1·8 per cent. in the sixth week, 0·2 per cent. in the seventh week, 1·1 per cent. in the eighth week, and only 1·0 per cent. subsequently. The table also affords the elements for calculating the average duration of the disease. Thus by multiplying the duration in days by the number of deaths which occurred on each day, and then dividing the sum by the total number of deaths, taking the average for the second and third, and third and fourth weeks, &c., on the eighteenth and twenty-fifth days, we arrive at the conclusion that the average duration of the disease in 447 cases of the total 452 cases, in which death happened before the expiration of two months, was 13·9 days; and of the total 452, allowing a duration of seven months each for the two cases whose duration exceeded six months, was 15·3 days.

These tables may be of much use in forming a prognosis: thus, if a child have survived a fortnight, it is more likely to recover than it was on the first day, in the proportion of more than two to one; if three weeks, of more than four to five, &c.

From the foregoing investigation we are entitled to draw the following inferences: (a) *that nearly one third of all the fatal cases of scarlatinal dropsy may be expected to die within the first week of the disease*; (b) *that considerably above one half (say 63 per cent.) may be expected not to survive the first fortnight*; (c) *that the average duration of acute cases (i. e., those which are fatal in less than a month) is 12·0 days*; and of all cases, 15·3 days; and lastly (d), *that the particular days on which the disease is most fatal are the seventh and fourteenth, no less than 54 cases, out of 452, having been registered as fatal on the former and 66 out of the same number on the latter day.*

(C) CHRONIC DISEASES.

ART. 9.—*On the diagnosis of Cancer by the Microscope.* By (1) MM. VELPEAU, ROBERT, and others; and (2) Professor BENNETT, of Edinburgh.

1. (*Archiv. Gén. de Méd.*, Nov. and Dec., 1854, and Jan. and Feb., 1855.)
2. (*Edinburgh Monthly Journal*, Feb., 1855.)

1. The Academy of Medicine in Paris has recently been the scene

of a long and irate discussion on the curability of cancer—a discussion which resolved itself practically into a question of diagnosis by the microscope. Some of the older members, with Velpeau and Cloquet for chiefs, believe in the curability of cancer, and disbelief in all microscopic evidence to the contrary. Other members, among whom are MM. Robert and Barth, regard the microscope as furnishing the only true diagnosis of cancer, and say that any cancer so diagnosed is incurable. Others, again, took a medium position, and believed that the microscope cannot be dispensed with, but that it is not sufficient of itself to lead to a correct diagnosis. M. Malgaigne was the defender of the position, which is no doubt the correct one.

2. The position which M. Malgaigne defended in this controversy before the Academy of Sciences, is, indeed, that which would be taken by all who are best informed on the subject. It is taken, for example, by Professor Bennett, in his treatise on ‘Cancerous and Canceroid Growths,’ thus :

“The microscope *alone*—that is, independently of all other kind of observation—can seldom determine in the living subject the presence or absence of cancer. At the same time, the author feels himself bound emphatically to declare, that he thinks it capable of being as serviceable to the surgeon in cases of morbid growth, as the stethoscope is to the physician in cases of diseased heart or lungs. Neither instrument is infallible ; both require to be studied in an especial manner ; both demand long practical experience, and judicious reasoning power ; and both require to be conjoined with all the aids to be derived from other modes of observation. With the stethoscope, it is not that the crepitating *râle* in pneumonia, or the mucous *râle* in bronchitis, differ from similar *râles* which accompany tubercular disease, but that these signs, *conjoined with other symptoms*, clearly establish the diagnosis. So, likewise, it is not the recognition, by means of the microscope, of certain cells and fibres, which will enable us to assert with certainty the existence of cancer ; but that their detection in particular places, and accompanying peculiar forms of growth, permits us to do so. In proportion as our knowledge of morbid anatomy advances, instrumental assistance becomes the more valuable for the purposes of diagnosis ; and it is now manifest that, to this end, a microscope is as necessary to assist our sense of sight, as is a stethoscope to assist our sense of hearing, or a probe to assist our sense of touch.”

ART. 10.—*On the treatment of the Marsh-cachexy by Arsenious Acid.*
By M. DECAISNE.

(Gaz. Hebd. de Paris, Feb. 23, 1855.)

Encouraged by the strange accounts which are related by M. Tschudi as to the effects of the habitual employment of arsenic in some parts of Styria and the Tyrol, M. Decaisne was determined to try whether this substance would have the effect of counteracting the marsh-cachexy. With this view he got his patients to stint their ordinary quantity of food (why he did this is not very obvious), and gave

them $\frac{1}{25}$ th of a grain of arsenious acid every morning. The results were very unfavorable. During the first fortnight or three weeks, indeed, the patients presented no manifest alteration, but after this time they grew manifestly worse—the pallor augmenting, the pulse becoming more feeble, while at the same time they began to suffer from sensations of cold in the back, from extreme languor, from œdema of the feet, &c. These symptoms had to be corrected by rest, food, quinine and steel.

ART. 11.—*On the advantages of large doses of Quinine in the treatment of Intermittents.* By Dr. MURCHISON, Physician to the Westminster General Dispensary, and late of the Bengal Medical Service.

(*Edinburgh Medical and Surgical Journal*, Jan. and April, 1855.)

These remarks occur in some valuable ‘Notes on the Climate of Burmah, and on the Diseases which there prevailed among European Troops.’ Dr. Murchison writes :

It has been a matter of considerable question, whether the quinine should be given in one large dose, or in repeated small doses during the intermissions. Dr. Home of Edinburgh, from his experiments, pronounced in favour of the repeated small doses, as also Dr. Barker of Dublin. Dr. Brown, in the ‘Cyclopædia of Practical Medicine,’ recommends two grains every three hours, or four every six, during the intermissions; but he allows, that in those cases in which “life probably depends on the prevention of a paroxysm,” it should be given in much larger doses, such as a scruple. Dr. Watson of London is also favorable to the repeated small doses, amounting to 12 grains in the 24 hours, which plan, he says, he has found most successful, though, at the same time, he acknowledges, that a “very few paroxysms have occurred after the patient has begun to take the medicine.” He also urges this plan on economical grounds, it being our object, he says, to make the cure “as cheap as possible.” On the other hand, we have practitioners recommending large doses. Dr. Elliotson gave a large dose just after the paroxysm, and smaller repeated doses during the remainder of the intermission, amounting, in all, to 20 or 30 grains in 24 hours. Dr. Copland recommends a full dose, 6 to 8 grains, immediately after the fit, or shortly before its return, or a large dose followed by smaller doses every three or four hours. Dr. Shapter, in ‘Tweedie’s Library of Medicine,’ remarks, “Some physicians have administered it to the extent of 20 grains at a dose, and have by this means succeeded in putting an immediate stop to the disease.”

Dr. Christison, in his ‘Dispensatory,’ says, the intermittents of the Tropics require 36 or 40 grains on an average; and, in a clinical lecture delivered in Edinburgh (March 19, 1850), he stated, “It is better to give a large dose at once, such as 36 grains, which has been shown to be the average amount required in India.” Dr. Christison informs me, that his calculation, that 36 grains was the average dose necessary for the cure of tropical intermittents, was deduced from

reports on the febrifuge virtues of quina, made by medical officers of the Madras army, at the request of the Medical Board, and published in the Madras Medical Reports for 1831.

In America, the medium dose is stated by Dr. Watson to be eight grains.

Continental practitioners seem to be also in favour of the repeated small doses. Thus, Rayer, in his article on fever, speaking of French practitioners, says, that though sometimes 5, 10, 20, or even 30 grains are given at one dose, yet the great majority of practitioners, in place of giving one large dose, divide it into several, which are given at intervals of one or two hours, during the intermissions.

In Italy, Dr. Watson says, the physicians find small doses inadequate, and are in the habit of giving 12, 24, or even 30 grains at a time. I found myself, however, during a protracted residence in the north of Italy, that the general practice consisted in administering repeated small doses. On the other hand, we find a German physician, Dr. Pfeufer, of Heidelberg, recommending the administration of a single large dose, in preference to the repeated small ones.

In India the practice by repeated small doses has been, and still is, the most general; and I myself shall never forget the look of astonishment with which an apothecary of some standing in the Indian service regarded me, when the "new assistant-surgeon" ordered a scruple dose of quinine. The attention of the profession in India, however, is being now called to the superiority of the treatment by large doses, and principally owing to the advice of the late Superintending-Surgeon Corbyn, who, in a published annual report on European troops, states, that he has long been convinced of the efficacy of this mode of giving quinine, and mentions the results of the experience of several medical officers, to whom he had recommended the practice. Of these, Dr. Mackinnon, who had been in the habit of giving half-drachm doses of quinine at the termination of the sweating stage, says, "I have never seen it fail to put a stop to the disease at once." Dr. Mactier speaks equally favorably of the practice.

On my first arrival in India, I had resolved to put to the test of experiment the practice recommended by my former preceptor, Dr. Christison; and I was not a little gratified in afterwards finding, by the published report of Dr. Corbyn, that results, equally favorable with my own, had been obtained by other observers. The result of my observations, then, on the 115 cases, goes to prove that the practice most effectual in at once checking the paroxysms of ague, is that of administering one large dose of quinine during the third or sweating stage. The usual dose given was 20 grains in a draught, with a few drops of sulphuric acid to increase the solubility of the salt. Generally this was followed by a few two-grain doses, twice or thrice a day, *per precauzione*, as the Italians say; but I believe that this is hardly necessary. In no case, even in those in which there had been violent headache and other symptoms of cerebral congestion during the paroxysm, did I observe any unpleasant symptoms from the physiological action of the drug. Many of the patients complained of slight buzzing sounds in the ears, but I believe that more or less of this symptom is necessary for the sure success of the medicine; at all

events, when it occurs, it is a sign that there is no use of pushing the medicine further. In 95 of the 115 cases, this treatment by the one large dose was adopted. In 56 of these 95 cases, or 59 per cent., the paroxysms were at once checked, there being no return after the administration of the single large dose of quinine. In 36 cases, or 37.9 per cent., there was only one paroxysm; and in 3 cases, or 3.15 per cent., two paroxysms, after the quinine. In all the cases, moreover, in which there were any paroxysms subsequent to the administration of the large dose of quinine, these were much milder than the preceding ones, often not occurring, until after the intermission of upwards of 24 hours, or being unaccompanied by rigors in the cold stage; while, in several instances they appeared to be owing to costiveness of the bowels; for it seemed necessary for the successful administration of quinine by any plan, that the bowels should be freely moved.

Again, in 16 out of the 115 cases, the ordinary plan of treatment was followed by repeated small doses of two or three grains of quinine, during the intermissions. In not one of them were the paroxysms at once checked; 5 of them had one paroxysm after the commencement of the quinine; 7 of them had two; and 4 three. Moreover, if we may reckon as any indication of the inveteracy of the fever, as I think we are fairly warranted in doing, the number of paroxysms which have preceded the commencement of treatment, the 95 cases, in which the paroxysms were almost at once checked by the one large dose, were, on the whole, more inveterate than the 16, in which the other plan of treatment was adopted. Thus we find, by another column in the table, that the average number of paroxysms before treatment, in the 95 former cases, was $2\frac{13}{19}$, or rather more than $2\frac{3}{4}$, while the average in the 16 latter cases was only $2\frac{1}{2}$. The above facts will speak for themselves. For the success of the treatment, it is necessary that the large dose be given during the third stage, and as near its commencement as possible. It is far from being so effectual, when given during the intermissions between two paroxysms, or a few hours before the expected commencement of a paroxysm, as is recommended by some writers. Thus, in the 4 cases which remain of the 115, the large doses were given during the intermissions: in not one of them were the paroxysms at once checked; 2 of them had two subsequent paroxysms, the other 2 had one, the average number of paroxysms before treatment in the 4 cases being two. Latterly, I always gave instructions that the quinine should be given, as soon as the patient began to perspire freely after the hot stage.

Again, in answer to Dr. Watson's other argument in favour of the repeated small doses, that it is the cheapest, we would reply that we believe such is not the case. Not only is the plan of treatment above recommended the most efficacious in checking the paroxysms, it is also the most economical as regards the expenditure of quinine. This, too, is the point of the highest importance, when we consider the immense expense the purchase of quinine must cost our Indian government annually, and the chances there are of the supplies of the drug at some future period running short. We have already stated, on the authority of Dr. Christison, that the average amount of quinine

found necessary to check the paroxysms of ague in India was about 36 grains, and we believe that this quantity is often greatly exceeded. The contrast, however, between the two different plans of treatment, as regards the expenditure of quinine, is very striking. In 92 cases treated by one large dose given during the third stage, the average quantity required to check the paroxysms was only $23\frac{33}{16}$ grains, while in those treated by repeated small doses, the average quantity required for the same purpose, was almost double, or $45\frac{1}{14}$ grains. In addition to the advantages of the plan of giving quinine just recommended, on the grounds of its greater efficacy and economy, there are others which may be mentioned. Thus, it enables the patients to return to their duty much sooner than the old plan—a matter of no small importance in military practice; and it gives less trouble to the apothecaries and hospital attendants.

ART. 12.—*On the treatment of Intermittents by Cinchonine.*

By M. HUDELLET, Physician to the Hospital at Bourg (Ain).

(*Rév. Méd.-Chir. de Paris*, Jan., 1855.)

Living in a country where marsh-fevers are endemic, and attached to a hospital where ninety beds were under his care, of which beds the half were usually occupied by persons suffering from these fevers, M. Hudellet has had abundant opportunity of treating these maladies, and this opportunity has not been neglected. For more than twenty-five years, he tells us, he has tried all manner of remedies in the hope of finding some cheap substitute for quinine, and almost invariably with disappointment, until March, 1853, when he began to use cinchonine. Since this time quinine has been almost altogether supplanted. He gives from 30 to 40 centigrammes of the sulphate of cinchonine in solution, adding to the first 3 or 4 doses, from 10 to 20 drops of laudanum, and the result is that *out of 507 cases of intermittents of all kinds, all were cured except 9*. This mode of treatment did not cause any disorder, either in the stomach, or in the head. Relapses were neither more nor less common than after quinine; and the spleen was affected in the same way, and to the same degree, as by quinine. Indeed, upon the whole, cinchonine was as effective a remedy as quinine, and therefore to be preferred, because cheaper. It is also as effective as a prophylactic.

It is difficult to reconcile these statements with other statements respecting cinchonine, but this is what M. Hudellet has to say.

ART. 13.—*On Quinidine in Intermittent Fever.* By (1) Dr. PEPPER, Physician to the Pennsylvania Hospital; (2) Dr. UPSHUR, Surgeon to the U. S. Marine Hospital, Norfolk, Va.; and (3) Dr. CULLEN, Assistant-Physician to the Philadelphia Hospital.

1 and 2. (*Philadelphia Medical Examiner*, Sept. and Dec., 1854.)

3. (*American Quarterly Journal of Medical Sciences*, Jan., 1855.)

1. In our last volume is an important article by Dr. Pepper on the

use of quinidine in intermittent fever, and we here again refer to it in order to correct a typographical error, by which, unfortunately, *Quinoidine* was substituted for Quinidine. We beg our readers to understand, then, that it is of *Quinidine* that Dr. Pepper speaks in the article referred to.

2. Since this time, Dr. Upshur has carried on the same inquiry, and, in the paper before us, he gives the results of 30 cases, 20 of which occurred in private practice, and the rest in hospital. "These cases," he says, "are sufficient to show that quinidine is undoubtedly an agent of considerable efficacy in the treatment of intermittent fever. I am not yet prepared, however, to assent fully to Dr. Pepper's remark, that the quinidine is more active than either sulphate of quinia or cinchonia. A large majority of my cases required from fifteen to thirty grains to arrest the paroxysm, while in several, after the fairest trial, the disease did not succumb until *quinine* was resorted to.

"During the past season I treated a few cases of remittent, and the graver forms of miasmatic fever with quinidine. The results were exceedingly satisfactory, and I have no hesitation in saying that, as an anti-miasmatic, it holds in my confidence the next place to sulphate of quinia."

Of Dr. Upshur's thirty cases, the following are taken indiscriminately as examples.

CASE 1.—E. T., a female, æt. 14, was seized with chill on the 21st of September, followed by high fever and intense aching of the head, back, and limbs. The paroxysm came on at 8 o'clock a.m., and was repeated on the 22d at the same hour. Visited her in the afternoon; pulse full, 120; skin dry and hot; thirst urgent; nausea and vomiting; tongue clean; bowels regular; no abdominal tenderness. Ordered Quinidine Sulph., gr. x; pil. v; one every hour.

23d.—Did not retain the first two pills; slept tolerably well, the fever declining about 5 o'clock p.m., with perspiration; bowels moved once; no appetite; pulse 80, small; thirsty, and looks as if she would have another paroxysm.

Rx Quinidine Sulph., gr. x.

Chart. 5. One powder every hour.

Two of the powders were thrown up as soon as swallowed; she missed the paroxysm, however, and has had no return. The whole quantity of quinidine retained was 16 grains.

CASE 2.—J. G., æt. 17, was seized, September 21st, with quotidian intermittent, the paroxysm occurring at 10 a.m. Saw her on the evening of the 22d; skin hot and dry; pulse 136, small and feeble; bowels regular, less aching than in the morning.

Rx Quinidine Sulph., gr. x.

To be given at one dose.

The paroxysm recurred next day at the usual hour, but with some abatement in intensity.

Rx Quinidine Sulph., gr. x.

Pil. 5. One every hour.

She missed the paroxysm on the next day, and had no return afterwards. There was slight ringing in the ears.

CASE 3.—E. T. B., male, æt. 45, seized with intermittent of tertian type; the paroxysm occurring at 1 p.m. Saw him on 23d, and prescribed Quinidine Sulph., gr. xv; pil. 4; one every hour. On the next day he had a light attack at the usual hour; and on the day after (25th), I ordered for him Quinidine Sulph., gr. v; pil. 2; one every three hours. He had no return of the disease.

CASE 4.—R. F., a male, æt. 6 months, was seized, on 22d of September, with tertian intermittent, the paroxysm occurring at 3 o'clock, a.m. He has cough of several weeks' standing, and is a good deal emaciated from cholera infantum; his fevers decline without moisture. I saw him on 25th, and prescribed, Quinidine, gr. viii, Aquæ, ℥j. M. S. a teaspoonful every hour. The paroxysm came on next day as usual, but it did not return afterwards.

CASE 5.—T. F., a male, æt. 6 years, in the same house, seized, Sept. 17th, with intermittent of the quotidian type, the paroxysms occurring in the afternoon. The fever is usually very high, and declines without moisture; bowels regular, and appetite good. This child had recently had an attack of scarlatina. I saw him on 25th Sept., and ordered Quinidine, gr. x; pil. 5; one every hour. He had no return of the disease.

CASE 6.—J. C., male, æt. 6, seized, Sept. 26th, with well marked chill, having for several days before, at the same hour, suffered from slight feverishness. On the 26th, the paroxysm came on in the night, the fever was high, and declined without moisture. I found him on the next day with a dry skin, and thirst, but no febrile movement; bowels were regular, and there was no abdominal tenderness. Ordered Quinidine, gr. xij; pil. 6; one every hour. He took all the pills, and had no return of the disease.

CASE 7.—Mrs. W., æt. 19, seized, Sept. 23d, with tertian intermittent. The paroxysm comes on at noon, and is marked by long chill, intense fever, which declines without moisture, and general aching of the head, back, and limbs. She is nursing a very hearty child, and has a chronic diarrhoea of two months, the dejections being liquid, and yellowish, and unaccompanied by pain. Saw her Sept. 28, during the paroxysm, and ordered Quinidine, gr. xv; pil. 6; one every hour. On the 30th, she had another paroxysm, but less intense, and I prescribed Quinidine, gr. x; pil. 5; one every two hours. She had no return of the disease.

CASE 8.—Mr. B., æt. 30, seized, Sept. 25th, with general aching, followed by fever; bowels became disturbed on 26th, the dejections being very frequent, liquid, and painless; on 27th, he had nausea and vomiting; paroxysm of fever occurs every afternoon, being preceded by only a little stretching. Saw him on 28th: no abdominal pain, but the bowels are moved every hour; no appetite; skin dry; very thirsty.

R. Quinidine, gr. xv;
 Acid. Sulph. dilut., ℥iiss;
 Tr. Lav. c., ℥ij;
 Tr. Opii, ℥j;
 Aquæ Camph., q. s. ℥ij;
 M. A teaspoonful every hour.

His bowels soon became relieved; and on the next day he was sitting up, missed the paroxysm, and had no return afterwards.

CASE 9.—Mrs. S., æt. 18th, pregnant, seized, Sept. 14, with quotidian intermittent. I saw her on the 28th. Up to the 25th, she had a well

marked chill, followed by fever. Since the 25th, the paroxysm was ushered in by simple aching and thirst. She had been freely purged with calomel and jalap; spleen enlarged; no abdominal tenderness.

R Quinidine, gr. xv.

Pil. 6. One every hour.

She had no return of the disease.

CASE 10.—Miss S., æt. 16, was seized, Sept. 30th, at 8 a.m., with chill followed by fever, which declined without moisture. On the 28th, she had slight chilliness, and aching, but the paroxysm was not well marked. Saw her Oct. 1st, and prescribed Quinidine, gr. xv; pil. 6; one every hour. The last pill was taken at 9½ p.m. The paroxysm came on next day, Oct. 2d, an hour earlier, and was more intense; the back, head, and limbs, ached violently, pulse was 124, and full, with hot skin, and urgent thirst. The bowels not having been moved for two days, I ordered Pil. Comp. Cath., three to be taken at once. She missed the paroxysm on the 4th, and had no return of it.

CASE 11.—Mrs. B., æt. 33, seized, Sept. 30th, with chill, well marked; thinks she had slight chills for several days before; tertian type. Saw her Oct. 2d; the paroxysm came on at 12 m. on 30th, and at 8 a.m. to-day; fever prolonged, and declined with a dry skin; bowels regular; aching intense; nausea, and abdominal tenderness.

R Quinidine, gr. x.

Pil. 5. One every hour.

She missed the paroxysm on 4th, and had no return of the disease.

CASE 12.—Leah, coloured, æt. 15, was seized with intermittent of tertian type, Sept. 30th. Saw her on 2d Oct.; the paroxysm occurred on that day at 11 a.m., and was characterised by the usual symptoms; bowels regular; no abdominal tenderness. Prescribed Quinidine, gr. xv; pil. 6; one every hour. On the 4th, there was another paroxysm, more intense than any previous one. The fever continued unabated for upwards of six hours, and, in addition to the intense aching of the head and limbs, she had violent pain at the epigastrium, with nausea and vomiting; bowels had not been moved for two days. Being absent from the city, the case was seen by my friend Dr. Robt. B. Tunstall, who prescribed Calomel, gr. x, to be taken at once, with a tablespoonful of the following mixture every hour, until the colic was relieved.

R Anodyn. Hoff., ℥ss;

Tr. Lav. c., ℥ss;

Aquæ q. s. ℥iv. M.

On the next day, Oct. 5th, I found the bowels had been freely moved, and the pain in the stomach entirely relieved. Ordered Quinidine, gr. xv; pil. 6; one every hour. She missed the paroxysm on the 6th, and had no return of the disease.

CASE 14.—S. B., male, æt. 18, was seized with intermittent, Sept. 26th; visited him Oct. 2d. Has a paroxysm in the morning one day, and in the afternoon next day; double tertian type. The paroxysms are ushered in by slight chilliness, and attended by intense aching, and abdominal tenderness; bowels regular, and fever declines with a dry skin.

R Quinidine, gr. x.

Pil. 5. One every hour.

On the 4th, I made this note: had no chill yesterday, but fever, with aching, &c. This morning, feels languid, but has no fever, and no aching; complexion very sallow; tongue clean and pale; no appetite.

R Quinidine, gr. x.
Pil. 5. One every hour.

At my visit on 6th, found him walking about, and fairly convalescent. He had no relapse.

CASE 15.—I. T., male, æt. 10, seized Sept. 22d, quotidian type; chills not well marked; febrile movement considerable, accompanied by thirst, aching; &c., and declines with a dry skin; the paroxysm is worse every other day, bowels regular; some abdominal tenderness. I visited him Sept. 26th, and prescribed Quinidine, gr. xv; pil. 6; one every hour. On 27th and 28th, the paroxysms came on as usual, with no abatement in their severity. R Quinidine, gr. xv; pil. 6; one every two hours. There being no improvement on the 1st of October, I ordered *Quinia Sulph.*, gr. xx; pil. 8; one every two hours. He missed the paroxysm on the 3d, and had no return afterwards.

CASE 16.—Mrs. H., æt. 36, sent for me Sept. 29th. For eight days before, she had suffered from headache and fever, which came on every day at 11 a.m., lasted about six hours, and declined without moisture. She has suffered very severely, for two years past, with frequent attacks of uterine hemorrhage, and is pale and enfeebled. Prescribed Quinidine, gr. xv; pil. 6; one every two hours.

Oct. 2.—Has had a paroxysm every day since the last note: cannot say they have been less severe.

R Quinidine, gr. x.
Pil. 5. One every hour.

Oct. 4th.—In statu quo; the occurrence of the paroxysm seems so far to be uninfluenced by the treatment.

R *Quinia Sulph.*, gr. xv.
Pil. 6. One every two hours.

She missed the paroxysm next day, and had no return of it.

3. Dr. Cullen gives a tabular account of 180 cases of intermittent fever, which were treated in the Philadelphia hospital during the last few months. The patients were chiefly Irish and German labourers, who had been employed in the canals, and about the banks of the rivers; and in many of them, their anæmic appearance and enlarged spleens showed that the disease was of long standing. After the "chill" was arrested, the patients took, for a few days, a mixture of serpentaria, bark, and gentian, with steel. Dr. Cullen proceeds:

"Of the 180 cases recorded, 111 were of the quotidian type, 35 of the tertian, and 31 of the tertian and quotidian, *i. e.*, began as tertian, and entered the house as quotidian, or the reverse, while there were three cases of double quotidian. This is an unusually large proportion of quotidians, but it must be remembered, that the patients were, at least many of them, of bad habits, greatly exposed, or unwilling to give up their means of support so long as there was not a daily interference with the pursuit of it; besides which, much allowance must be made for what may be their erroneous statements. In 129 cases the chill was arrested by fifteen grains of the salt, and there was no return of it; though it must not be forgotten, that these patients were, as before said, kept steadily under the use of a compound infusion of cinchona with iron. On the seventh, fourteenth, and in those remaining on the twenty-first day, ten grains of the sulphate of quinia were again exhibited.

“Upon the whole, so well convinced is the writer of the merits of sulphate of quinia, that with him it has entirely superseded the salt of quinia; being, he believes, quite as efficient in the treatment of intermittent fever, while its price, about one-third less than that of sulphate of quinia, renders it especially desirable for large hospitals, among the poor in private practice, and with all who are influenced by considerations of economy.”

ART. 14.—*Illustrations of some points in the history of Gout.*
By Dr. GARROD.

(*Lancet*, Feb. 24, 1855.)

In this paper the author considers the chronic states of the articular and non-articular forms of gout. It is difficult, he tells us, to separate some forms of acute gout from acute rheumatism, but it is more difficult still to separate these maladies in their chronic state. As to the symptoms which might be brought to bear upon this diagnosis, it is allowed by all that the chalk-like deposits, or chalk-stones, are never found except in the subjects of true gout. In composition these deposits consist essentially of urate of soda, the difference met with in the analysis being dependent on the tissues in which they occur; they are alkaline in reaction, and, at first, fluid, going through different degrees of consistence till they become solid. The situations in which they are found vary exceedingly. They are found within and around the joints, around the ligaments and sheaths of tendons; on the surface of the cartilage of the joints; and under the cuticle, &c. When occurring within the joints, they produce a roughness on the cartilage, and greatly impede motion. They may remain in the body during the lifetime of the patient, which, probably, is generally the case; or they may be discharged by a kind of desquamation, when more deeply seated, by causing inflammation or ulceration. When these deposits occur where they may be readily seen—as, for instance, around the joints, the diagnosis of the case is easily made; but they are not unfrequently confined to a single part of the body, and then are likely to be overlooked by the practitioner. The ear, and sometimes the integuments of the face, are the parts most commonly selected externally, where they may exist singly, or in numbers. They exist more frequently in the ears than has been generally supposed; and it is ascertained, from a collection of cases made, that deposits were present in 45·9 per cent. of gouty cases, in seven tenths of which the ear alone was affected. The author relates two cases to show how greatly the diagnosis may be assisted by the discovery of these minute concretions. Though they are indications of gouty affection, their absence is no proof of the disease not being gout; they are frequently absent, and patients may suffer gout for many years without their being formed. On the other hand, some of the worst cases of deposits have occurred within three or four years from the first attack in the great toe. Another valuable diagnostic symptom is the special great toe affection, and Dr. Garrod shows that, out of a number of cases noticed by him, in eighty-two per cent. this was present. This symptom is the

more valuable that it seldom, if ever, occurs in rheumatism. The sex, too, is not to be disregarded, as gout is much more common in males than females; out of a table of cases, only five per cent. were females, which would hardly be the case if the pathology of the two diseases were alike. Œdema, and subsequent desquamation of the cuticle, is almost invariably present in gout, the desquamation showing itself when the inflammation is subsiding. These signs occur very seldom in genuine rheumatism. He also mentions, among other symptoms, some minor points, which, in conjunction with others, might be of some use in diagnosis—viz., the presence of heart affection in rheumatism from prior attacks of acute disease, the dyspeptic accompaniments of gout, the influence of cold and moisture in inducing rheumatism, and of high living, especially of wine and malt liquors, in bringing on gout; and lastly, the condition of the blood and blister fluid. In all cases of pure gout the blood contains an abnormal quantity of uric acid, which is not the case in rheumatism; and in cases where the other symptoms are not characteristically developed, the presence or absence of uric acid in the blood may afford evidence as to the nature of the affection. In the place of abstracting blood, of which only a small quantity is requisite, (an ounce or so), the examination of the serum produced by a small blister has the same result.

ART. 15.—*On Blennorrhagic Rheumatism.*

By M. BRANDES, of Copenhagen.

(*Archiv. Gén. de Méd.*, Sept., 1854.)

M. Brandes allows the existence of this form of rheumatism, but he believes that it has no other distinctive feature than mere coincidence with blennorrhagic discharge. Thus, if a person, who has never had any rheumatic symptoms, is attacked with these symptoms along with gleet; if these symptoms disappear with the gleet, and again reappear when the gleet returns, the patient being quite free from rheumatism in the interval, and particularly if there have been several concurrent attacks of pain and discharge, with free intervals, *then*, and only then, can we pronounce positively as to the rheumatism being blennorrhagic rheumatism. This *coincidence* of pain and discharge is, in fact, the only guide.

M. Brandes relates nine cases in illustration.

ART. 16.—*The prevention of Syphilitic Infection by Perchloride of Iron.* By M. RODET, of Lyons.

(*Gaz. Hebdom.*, Jan. 12, 1855.)

M. Rodet proposes to destroy the syphilitic virus before it has time to get into the system, by thoroughly bathing the part to which the virus has been applied with one of these lotions, viz.:

1. Perchloride of Iron,
Citric Acid,
Hydrochloric Acid, each ʒj;
Water, ʒj.

2. Perchloride of Iron, ʒj;
Hydrochloric Acid, ʒiiss;
Water, ʒj.

Of these two lotions, the last is the most irritating, but neither of them causes any irritation of the least moment. M. Rodet tested their anti-syphilitic virtue by inoculating himself and others with the virus, and then using the lotion; and he found that the virus was invariably destroyed.

M. Rodet also tried a similar experiment with the vaccine virus, and with a like result; and upon this fact he asks, whether the development of the variolous pustules may not be prevented, and their consequent disfigurement avoided, by washing the skin with one or other of the lotions. He proposes, also, to apply the same agents to parts bitten by dogs and other animals, with a view to the neutralization of any virus which may be lodged in the wound.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 17.—*On the immediate cause of Coma and Insensibility.*
By Dr. SNOW.

(*Lancet*, Dec. 23, 1854.)

In Dr. Snow's opinion, coma and insensibility, though met with under a variety of circumstances, are always caused by the interruption of the process of oxydation of the brain and nerves, which process is necessary to consciousness, sensibility, and all the other animal functions. The effect of respiration, which is a process of oxydation, is very evident on the foetus, the moment it begins to breathe the air, in exchange for the imperfect oxygenation of the blood previously effected through the placenta. In asphyxia, the privation of oxygen causes coma and insensibility, whilst the heart still continues to beat for a time. Narcotics produce coma and insensibility by diminishing oxydation, through a counter-affinity which they possess for the oxygen. The following are the chief facts, which prove that narcotics act by diminishing oxydation in the system. The quantity of carbonic acid given off from the lungs is diminished during the influence of chloroform and ether. Bocker has found that the quantity of all the constituents of the urine was diminished by alcohol and some other narcotics. The temperature of the body, which always bears a direct relation to the consumption of oxygen in the system, is lowered during the insensibility caused by narcotics. Narcotics have most of them the power of preventing oxydation out of the body. Putrefaction is a process of oxydation in its commencement; and nearly all narcotics are antiseptics, their antiseptic power usually bearing a direct relation to their power as narcotics. The vapours of volatile narcotics also have the property of preventing that kind of oxydation which consti-

tutes ordinary combustion. Some parts of the nervous system seem to have a greater affinity for oxygen than others, as they are able to perform their functions with a less amount of that gas. It is on this account that patients are able to exist in a state of coma and insensibility without dying. In privation of air, and also under the influence of narcotics, the functions of the cerebral hemispheres, and of the nerves of common sensation, are first suspended, coma and insensibility being induced, whilst the respiratory movements and the action of the heart continue. By further privation of air the respiratory movements ceased, from the functions of the medulla oblongata and the nerves of respiration being suspended, whilst the heart continued to act; showing that the ganglionic system of nerves continue to perform their functions. Under the influence of narcotics, also, the action of the heart usually survived that of the muscles of respiration, when these agents were not very rapidly introduced into the circulation. The circulation of the blood is of course necessary to convey oxygen to any part of the body; and it is by the interruption of the circulation in the brain that the diminution of oxydation was produced which caused the coma of apoplexy and epilepsy. The symptoms of apoplexy arise sometimes from extreme congestion, and sometimes from anæmia of the brain, but in either case the circulation is much interrupted; whilst, in effusion, the yielding coats of the vessels were the first to feel the pressure.

ART. 18.—*Case of involuntary tendency to fall immediately forwards.*
By Dr. PAGET, F.R.C.P.

(*Medical Times and Gazette*, Feb. 24, 1855.)

There can be no hesitation in referring the peculiar symptom which was here observed to disease of the crura cerebri, for none of the other morbid appearances in the brain had anything distinctive; and hence the value of the case, for cases in which such a symptom has been connected with well-defined local disease are very rare. How the disease operated, however, is not easy to say. Dr. Paget thinks rightly that the experiments upon the brain of the inferior animals do not shed much light upon the subject; and he is rather disposed to seek for the explanation in the phenomena of paralysis agitans. "It may be remarked," he says, "that a symptom resembling the peculiar tendency to fall forwards is not unfrequently manifested in paralysis agitans. In this disease, as is well known, the patient has generally a tendency to lean forwards; and, to save himself from falling, is under the necessity of walking on his toes, with short, quick steps. In an advanced stage of the disease, the tendency to fall becomes almost as strongly manifested as in the case I have narrated; for the patient in walking would actually fall forwards on his face, unless supported. As the pathology of paralysis agitans is so obscure, it would be worth while, in case of an opportunity, to examine the state of the crura cerebri."

Dr. Paget afterwards proceeds to make some natural comments upon the functions of the cerebellum:

"The peculiar circumstances of the case suggest some reflections in regard to the function of the cerebellum. From the well-known experiments of Flourens, the conclusion has been drawn, that the chief or sole function of this organ is to regulate and co-ordinate the muscular movements for the accomplishment of definite ends; and this seems no more than a fair inference from the facts. But a case like the present indicates that we must stop short of regarding the cerebellum alone as constituting the organ for co-ordination of movements. If the cerebellum, by itself, and independently of the cerebrum, had such a power of co-ordination, the movements would be regular and harmonious so long as the cerebellum and its transverse commissure, and its connexions with the nerves through the medulla oblongata, remained entire and free from disease. Now, in the present case, all these parts were healthy, and yet the guiding power was lost, as was evidenced, not merely in the tendency to fall forwards, but more unequivocally by the patient's inability to convey food directly to his mouth. This single instance seems sufficient to prove that the entire mechanism for the co-ordinate movement is not contained in the cerebellum alone, but that the proper performance of the function requires also an integrity of certain connexions of the cerebrum.

"This view is in no respect at variance with Flourens' experiments. In removing the cerebella of animals by successive slices, he found that the animals were gradually deprived of the power of harmoniously combining their muscular movement for the accomplishment of definite ends. This proved no more than that the cerebellum is an essential part of the co-ordinating mechanism. It did not prove that organ to contain the entire mechanism, because the removal of a part of the apparatus might as effectually disturb or destroy the function of the whole, as the removal of one of the wheels of a watch might arrest the movement of its hands."

Commenting upon these remarks, in the next number of the journal from which this case is taken, Dr. Russell Reynolds says:

"The truth of this proposition I have already endeavoured to prove in a pamphlet upon vertigo, in which it was shown (by a reference to experimental and clinical observation) that the co-ordinating function of the cerebellum required, for its due performance, the guidance and direction of sensation; and that all the lesions (resulting from experiment or disease) which are known to induce vertiginous and other allied alterations of motility, may be resolved into solutions of functional continuity between the organ of co-ordination itself (the cerebellum), and the sensory ganglia, the organs of special sense, or the general motor and sensory tracts."

Dr. Paget's case is as follows:

W. P., æt. 41, was admitted into Addenbrooke's hospital, July 6th, 1853. He was a married man, living in a suburb of Cambridge, on the Newmarket road, and following the occupation of a brickmaker, working in the wet clay. He was tall, well-made, light-complexioned, and of respectable appearance. He was also temperate in his habits, according to his wife's report, from whom the following history of his illness was derived.

Six weeks before his admission, he returned from his work at noon, com-

plaining of giddiness. No medical advice was sought for a fortnight, during which time he continued at his work, though still complaining of giddiness, and also of dimness of sight. He then, at the urgent desire of his wife, consulted Mr. Deighton, by whose directions he desisted from his work, and was actively and judiciously treated. He remained, however, in about the same state for another fortnight, when, one forenoon, on his wife's return home, after a short absence, she found him reclining in a chair, perfectly insensible, with his mouth drawn to one side, and with his left limbs rigid and immovable. Mr. Deighton bled him largely from the arm, but without immediate relief; and the coma continued until 6 o'clock the next morning, when it passed off, and in five or six hours afterwards the tonic spasm of the left arm and leg was relaxed, and he recovered the use of them.

A fortnight after this, he was admitted to the hospital. His recovery from the fit had been far from complete. Though he could move his limbs freely, and seemed not deficient in strength, he could not go alone; in attempting it, he staggered, and fell forwards on his head. Whenever he got out of bed, he likewise fell precipitately forward. He could not feed himself, having difficulty in directing the food to his mouth, carrying it often to his cheek or chin instead of the mouth. He frequently passed his urine into the bed, apparently through inability to retain it when the need came (as it often did) suddenly and urgently. The same happened, and apparently from a similar cause, with the alvine evacuations. His memory was impaired, and he wept in an imbecile manner when reference was made to his miserable plight. Yet his understanding was clear for simple matters; he understood what I said to him, and, when I was questioning his wife on this point, he spontaneously made the remark, "I know very well, but I can't do." He said this with an effort, and then he wept in a helpless, half-imbecile manner. He groaned frequently. He kept his hand on his left temple; but said he had no pain. His pulse was 54; tongue furred; bowels rather torpid.

He was ordered to have middle diet; eight leeches to his right temple, and a grain of calomel every night and morning.

The following are the principal notes taken during the progress of the case:

July 8th.—A blister to be applied behind right ear.

9th.—Is not restless, as he was at his admission; he sleeps much and soundly.

10th.—Double vision; slight divergent strabismus.

11th.—Sometimes rambling in his mind. A seton to be inserted at the nucha. Iodide of potassium, three grains thrice a-day.

15th.—Strabismus more evident; left eye turned outwards; the left upper lid fallen, and cannot be raised. He is more restless, constantly desiring to get out of bed. When he does, he precipitates himself forward on his head. Speech indistinct; bowels confined.

R Hydrarg. Chlor., gr. ij;
Pil. Coloc. C., gr. vj. Statim.

16th.—Bowels well relieved. He is rather worse than better.

R Tinct. Cinchon., fl. ʒj;
Liq. Hydrarg. Bichl., fl. ʒss;
Aquæ, fl. ʒvjss. Ter quotidie.

17th.—Not quite so restless.

21st.—The left eye is no longer divergent, and he can separate the lids rather more widely. This morning I had him helped out of bed, in order to see him try to walk, some improvement having been reported. I find that he

is quite unable to walk alone. He cannot direct his steps steadily. He staggers on either side, but his tendency to fall is chiefly forwards; he has a tendency to lean forwards, and fall on his face. Mind feeble, though he still seems to understand questions, and answers them intelligibly, when the answer required is short and easily pronounced. When he attempts longer words, they are indistinct and unintelligible. Pulse 56.

August 3d.—Augeatur dosis Liq. Hydr. Bichl., ad fl. ʒj.

15th.—He no longer passes his evacuations into the bed. His power of walking is a little improved; the tendency to fall forward seems not quite so great. Slight gradual improvement in his mental condition, but he is inordinately emotional. The left eye is again divergently squinting, and its pupil dilated.

28th.—No further improvement in cerebral symptoms, though he is growing fatter and stronger, and his complexion has become that of health. The squint and dilatation of pupil of left eye, and the ptosis, are persistent. Pulse 65, strong; gums a little touched by the mercury. Omit Tinct. Cinchonæ.

Sept. 19th.—General health excellent; he has grown fat and rosy. Speech not quite so indistinct, but no other improvement. Mind far from clear. He is self-willed, and difficult to manage; this, I am told, was not his character when in health.

Tartar emetic ointment to scalp. Continue the bichloride.

26th.—A full eruption of pustules on the scalp; the seton removed.

28th.—Yester-evening, a convulsive agitation of the right arm came on suddenly, and continued for a quarter of an hour, with a choking sound in his throat, but without loss of consciousness. Numbness of the arm ever since; no headache; pulse 72; bowels regular.

Hirudines viij, ad tempus sinistrum applicentur. Hydr. Chlor., gr. v; Pil. Coloc. C. gr. x. Statim.

Oct. 2d.—Since the convulsion of his right arm, the fingers of that hand have shown a tendency to tonic extension. The spasm is noticeable during sleep, but is readily overcome by his volition when he is awake.

6th.—Yester-evening, another similar convulsion of the right arm. He has been worse for the last three days in intelligence, temper, and bodily power. He almost always passes his urine into the bed, and lies in it without manifesting any desire to avoid the uncleanness. He rubs the tartar emetic ointment off his head as soon as it has been applied. He sleeps heavily during the night, and not unfrequently during the day likewise. An issue to be made along sagittal suture.

Hydr. Chloridi, Pulv. Ant. C. aa. gr. ij. Bis quotidie.

Nov. 24th.—He pulled the peas out of the issue. He gradually became worse and weaker. The issue, therefore, was allowed to heal, and small doses of Tinct. Ferri Sesquichlor. were tried, instead of the calomel and antimony. Under this treatment he grew more torpid, and then all medicines were omitted, except purgatives, without which his bowels were not relieved.

He is now much weaker and thinner. He lies almost constantly in a state of stupor, never asking even for food; the nurse feeds him like an infant. When roused, he is sometimes troublesome or even disposed to violence. Passes urine and fæces under him. The paralysis is persistent in parts supplied by the third nerve. The right arm is in a constant, moderately rigid spasm, the fingers being extended; but in the last few days it has been agitated four or five times, as it was on September 28th.

After Nov. 24th, he continued to grow thinner and weaker. He generally lay in a state of unconsciousness, but sometimes recognized those around

him. Thrice he had a general stiffening—a tonic spasm—of the whole body; several times a convulsion of the right arm, and this arm and the right leg were generally in a state of rigidity. He gradually sank, and died on Dec. 23d.

On examination of the body, fourteen hours after death, the principal disease was found in the crura cerebri. On external inspection of the base of the brain, nothing abnormal could be seen except that the locus perforatus medius was not situated symmetrically in the mid line, but almost wholly on the left of it. On section of the right crus cerebri, a mass of disease was discovered, occupying its central part. The mass commenced a little posterior to the junction of the crura, and extended obliquely forwards from the right into the left crus, being about an inch in length, and nearly half an inch in breadth and thickness. It came close to the surface at the origin of the left oculo-motor nerve; but elsewhere it was deeply seated, occupying in both crura the position of the locus niger, and encroaching on the nervous fibrils around it. There was a well-marked line of demarcation between the diseased mass and the surrounding nervous substance; the latter was plainly distinguishable from the former by colour, and seemed healthy, except about the most anterior part of the mass, near the origin of the third nerve, where it was somewhat soft.

The diseased mass was not homogeneous; the greater part of it was of yellow colour, and very firm consistence—firmer than a healthy medulla oblongata—and tough as well as firm; approaching, indeed, to the qualities of cartilage. The other part of the mass was of a dull greyish-red colour, and as soft as the grey substance of the brain. The part of the brain out of which issued the left oculo-motor nerve was, as has been mentioned, involved in the disease; but the right nerve and its origin were quite free.

There was more fluid than is ordinarily found in the arachnoid cavity, and the two layers of this membrane were strongly adherent along the posterior half of the great longitudinal sinus. The lateral ventricles, also, were dilated with fluid, and the right choroid plexus contained a white body the size of a hempseed, and of the consistence of white cerebral matter. In other respects the brain seemed healthy; all parts of it were carefully examined. The other organs were free from disease.

Microscopic examination showed that the diseased mass in the crura cerebri was probably for the most part an inflammatory deposit, partially degenerate and withered. The firm, yellow mass was composed, almost entirely of shrivelled imperfect cells, shrivelled nuclei, and molecular matter.

The tendency of the patient to fall forward on his face was noticed during the whole period of his stay in the hospital, and latterly it was more strongly manifested. During the earlier part of the time, he could make two or three steps forward before falling; afterwards, the propensity to fall forwards showed itself before he could take a single step, and was constantly manifested whenever he got out of bed. Assistance and support were always needed to prevent him precipitating himself forwards.

ART. 19.—*Epilepsy treated by Cotyledon Umbilicus.*

By Dr. SIEVEKING, Assistant-Physician to St. Mary's Hospital.

(*Medical Times and Gazette*, Dec. 2, 1854.)

Dr. Sieveking thinks that the following cases hold out some encouragement to the further employment of this certainly innoxious remedy:

CASE 1.—Feb. 8, 1853.—Anna D., æt. 35, the wife of a painter, has been subject to epileptic fits for six years; sometimes with intervals of two or three months; lately they have become more frequent; and since yesterday week she has had six. The fits last two hours; she is insensible, foams at the mouth, struggles, and bites her tongue. The paroxysm is preceded by an aura in the shape of a choking sensation; she also feels the eyes growing dim a minute or two before the attack, but there is not sufficient time to take any precautions. The fits are generally worse during pregnancy; she is not so now; the tongue is bitten; there is no hereditary taint; no headache. The patient attributes her fits to anxiety. Pulse small.

Rx Liq. cotyl. umbil., 3j., ter die.,

continued to Feb. 15, with one slight fit, which only lasted ten minutes.

The cotyledon was persevered in, with an occasional colocynth pill, and a little cough medicine, to the 29th of March, only one fit having taken place during that period. On the 6th she was discharged, but the cure was not permanent; for, on the 19th of April, 1853, she returned, stating that the fits had returned since the previous week, and that seven paroxysms had occurred since.

The liq. cotyl. umb. was again ordered in the same dose.

May 3.—One fit since last visit. Pergat.

20th.—No fit for a fortnight. Pergat.

June 11.—One fit since last visit. Pergat.

July 5.—One fit in the night, the week before last, from excitement; none since.

Electuar. ferri 3j., ter die.

12th.—Pergat.

25th.—One fit since last visit.

Rx Nitr. arg. gr. ss.;
Extr. gent., gr. iv.;
Pil. ter die sumenda.

Aug. 2.—Had two fits during the last visit, lasting a short time, and a slight fit last night. Per. pil.

16th.—Has had two fits. Rep. Liq. Cotyled. Umbil. 3j., ter. die.

25th.—No fits. Pergat.

Sept. 23.—One fit since Aug. 25. Pergat.

After this there was no return of fits during the whole period she continued to take the medicine; she also lost what she called the slight attacks—brief, momentary fits of vertigo and semi-unconsciousness, and was discharged, cured, on Nov. 18th. The cure, however, again, was not permanent; and the last notes of the case, I regret to say, appear to show that the cotyledon had lost whatever efficacy it may previously have possessed. She returned in Jan. 1854, after a free interval of three months. She was now pregnant, and continued to have the fits up to the period of delivery, without relief from the cotyledon.

CASE 2.—Aug. 2, 1853.—Thomas C., æt. 44, a widower and messenger, has for three days past been subject to dizziness; three days ago there was loss of consciousness, and paralysis of the hands for a quarter of an hour, of which there is now no trace. There is pain in the forehead; pulse 84; tongue furred. On Sept. 3 he had a fit, in which he lost his senses for about half an hour. Two fits occurred again between August 19 and September 23; another on September 25, lasting ten minutes. The treatment up to this time consisted mainly in counter-irritation and purging, the symptoms being regarded as indicating a congestive, if not inflammatory condition of the brain.

Oct. 7th.—Last Sunday (five days ago) his hand became pale and “drawn;” there was a sensation passing up to the head, and he then fell down in a fit, and remained unconscious for about ten minutes. The same symptoms have occurred once a-week. He was recommended to apply a ligature round the arm, and tighten it as soon as he feels the commencement of the aura, and take liq. cotyled. umb. ʒij. ter. die.

Oct. 14th.—States that he has derived a great deal of good from the last medicine. Pergat.

21st.—Has a sort of cramp in his hands when he wakes up in the morning, with a “tapping” on the head. Pergat.

28th.—Can’t get rid of the ticking in the head; complains of nothing else, except a slight increase of deafness. Says the cotyledon umbilicus acts as a diuretic. Rep. Cotyled. Umbilicus, Empl. Vesicat. Auricul.

Nov. 11th.—No fit had recurred since the first employment of the cotyledon umbilicus. I have not seen this patient since.

CASE 3.—This case might have seemed a peculiarly favorable case for the employment of the cotyledon umbilicus, from the apparent absence of all complications; but it failed, like the various other remedies which were employed, in effecting any permanent impression. It was that of an intelligent lad, æt. 17, who, for three years before coming under treatment, had been subject to fits, occurring on an average once or twice a month. There was no hereditary or other taint traceable; masturbation was absolutely denied by the father, who had closely watched his son, and the former attributed the malady solely to over-reading. The cotyledon was given alone, or with taraxacum, from October 18 to November 29; and although the headache of which he complained was relieved by a seton, the monthly fits were not postponed, and have of late even become more numerous.

CASE 4 was one that would be at once pronounced hopeless as regards the efficacy of any drug. The patient was a porter, æt. 30, who had been subject to epileptic fits from his infancy, whose father was paralytic and brother epileptic; they were preceded by a sense of his “head going round,” and occurred once or twice monthly; and, during the last twelve months, he had also been affected with choreic movements of the left arm. He took the extract of the cotyledon, first, gr. xv; afterwards, gr. xxx, three times a-day, while under treatment,—viz. from Feb. 7, 1854, to April 4, with occasional purges. During that period he had four fits.

CASE 5.—March 14, 1853.—W. L., a lad, æt. 15, of a scrofulous habit; had no diseases until the appearance of the fits, to which he has been subject about a year and a half. The fits commence with a scream, and the unconsciousness sometimes lasts two hours. They are followed by frontal headache. He has not bitten his tongue. The pulse is 80, strong; the bowels open; there are no worms; he passes much urine before the fits; he now has five or six fits daily. He never had a blow on the head as a child. Masturbation denied. Ext. cotyled. umbil. gr. xv, ter. die. Mist. magn. et rhei, ʒij, alterna mane.

28th.—Has had no fit since last visit; feels much better; has no headache. Pergat usu mistura et pilul.

April 7.—Has had no return of fits till last night, when he had a “dreadful” fit, and another this morning. Wets his bed at night. The free interval was regarded by the mother as unusually long. Unfortunately, that was the last opportunity I had of seeing the boy; but the case, so far as it goes, may be used as evidence in favour of the cotyledon, the more so, as the patient’s age and sex, as well as the duration of the illness, do not favour the assumption of any mere mental impression.

CASE 6.—In this case, a young clerk, æt. 17 years, epileptic fits had occurred,

with gradually increasing frequency, for a year before he came under treatment. Gradually increasing doses of sulphate of zinc, attaining gr. x, effected what appeared to be a cure; but at the commencement of the treatment, the cotyledon was tried from April 21 to May 9, during which time he had two fits, which were said to have been less strong than the previous, though about the same rate of frequency.

CASE 7.—This case was one in which, not only from the ancient date of the disease, but the probability of centric disorganization (tubercle) of the brain, and the impoverished circumstances of the patient, treatment promised to be of little avail. He was a porter, æt. 18, who suffered from the first fit at the age of 5. The fits had remained in abeyance till within about eight months before coming under treatment. It was commenced with the nitrate of silver, but the fits became more frequent; the silver was therefore exchanged for the cotyledon, and the previous interval was restored, and intermissions subsequently were protracted longer than they had been before treatment. A severe attack of pleuritis prevented the further attendance of the patient, and he was lost sight of.

ART. 20.—*The effects of "Submarine Descent" upon the Nervous System.* By Dr. LITTLETON.

(*Assoc. Med. Journal*, Feb. 9, 1855.)

During the construction of the iron bridge over the river Tamar, at Salt-ash, in Cornwall, Dr. Littleton has had an opportunity of observing the injurious effects of working in deep water, and some of these are hitherto undescribed. He writes:

"There are accounts given of several of the inconveniences which attend on the descent in a diving bell, at p. 492, No. 349, and p. 177, No. 368, of the 'Philosophical Transactions,' by Dr. Edm. Halley; at p. 377, No. 444, by Mr. Martin Triewald; and in Dr. Olinthus Gregory's translation of Abbé Haüy's 'Natural Philosophy,' vol. i, p. 224. Such are the following: a painful sensation of pressure on the membrana tympani, which soon subsides, the ready communication by the Eustachian tube establishing an equilibrium of pressure on that part; spitting of blood; bleeding at the nose and ears; blood-shot state of the eyes; and the oppressive sensation attendant on a confined atmosphere, by which, if the means of constant renewal are not applied, life would be speedily destroyed.

"But no allusion is made to one source of danger, that has demanded most attention here; and which, from the suddenness of the attack, and apprehensions of fatal results attending it, more especially deserves notice.

"Some reason for this omission is here supplied by the difference which the apparatus used here presents from a diving bell, and the less liability to danger which exists in the latter, from the *gradual* manner in which it is lowered and raised, and the consequently slow increase and diminution of pressure to which its inmates are subjected. Were this, which is so rightly insisted on by Dr. Halley, not observed, the same consequences would follow the rapid drawing up of the bell to the surface of the water as attend the working in this cylinder, and from the same cause, *the sudden removal of pressure.*

"Considering the effects produced on some few by this change, from a pressure of three and a half atmospheres (the depth at high spring tide being eighty-five feet) to the normal pressure of fifteen pounds, it is a matter of surprise that more do not suffer them. There have not occurred, so far as I am aware, more than half a dozen severe cases, in a work which has occupied daily twenty-five men over a period of many months.

"In the severe forms of the attack, the man is taken, within a few minutes after coming out of the cylinder, somewhat as in an apoplectic seizure, with a loss of power, preceded by pains, in the lower limbs (paraplegia), as I have seen in two cases, or of one-half of the body (hemiplegia); another, the only one I have seen so affected, was wholly unconscious, remaining in that state many hours. In those who escape with less injury, their sufferings are in some instances very severe, from pains in the limbs and joints; and few, if any, have wholly escaped these effects at some time or other during the progress of the work."

ART. 21.—*On Ulceration of the Frænum of the Tongue in Hooping-Cough.* By M. GAMBERINI.

(*Archiv. Gén. de Méd.*, Feb., 1855.)

M. Gamberini tells us that he has looked for small ulcers in this position in all the cases of hooping-cough which have fallen under his care since 1844, and that he has generally succeeded in finding them, particularly in the more severe cases. The ulcers are seldom round, but they are usually elongated in a transverse direction, as if the frænum had been torn across. Sometimes the frænum is not implicated. The ulcers are never preceded by vesicles, but they begin as ulcers. The explanation which M. Gamberini has to offer is, that they are produced mechanically by the forcible protrusion of the tongue against the teeth; and he says, that where the teeth are irregular, and one tooth projects more than another, the ulcer is apt to correspond to the position of the projecting tooth. He says, also, that ulcers were not met with before the appearance of the teeth. M. Gamberini, however, has not been able to detect these ulcers in other cases of spasmodic cough.

The presence of these ulcers in hooping-cough has been previously noticed by two or three observers.

ART. 22.—*New method of treating Neuralgia by the direct application of Opiates to the painful parts.* By Dr. ALEXANDER WOOD.

(*Edinb. Medical and Surgical Journal*, April, 1855.)

Dr. Wood has been led to introduce solution of morphia and Battley's Sedative Solution into the cellular tissue, as near as possible to the painful part of the affected nerve, by means of the small perforating syringe which is used for injecting aneurisms with perchloride of iron: and he now narrates nine cases in which he has employed this

mode of treatment, in all with perfect safety, in some with complete, in others with partial, success. He introduces the solution, we repeat, as near as possible to the painful part of the affected nerve, where, as M. Valleix has pointed out, there is usually more or less tenderness on pressure, even in the interval between the paroxysms of pain. This he insists upon as an important point of practice. Indeed, before adopting the treatment in question, Dr. Wood had carried out the treatment recommended by M. Valleix in these cases, which treatment consists in the application of a succession of blisters on those points of the nerve which are tender on pressure, sometimes applying morphia endermically; and he had found much benefit from the practice.

The cases related are as follows :

CASE 1.—Miss —, an old lady, who had long laboured under gastric and nervous symptoms, had suffered severely for four days from cervico-brachial neuralgia. This lady had the idiosyncrasy of not being able to take opium. Of this she had warned me many years before, when she first came under my care, and I consequently never prescribed it for her; however, once, when she was seen with me by the late Dr. J. H. Davidson, he, disbelieving her former experience, prescribed opium, with the effect of bringing on a severe fainting fit.

The narration of her case may date from November 26th. She had not been able to sleep for the three previous nights from the violence of the neuralgic pain, and was quite exhausted with severe suffering. The usual internal remedies, with the exception of opium, had been tried, but without the least alleviation of her agony. Under these circumstances, I resolved to put in practice the plan which I had so long resolved in my mind.

Accordingly, on November 28th, I visited her at 10 p.m. to give the opiate the benefit of the night. Having ascertained that the most tender spot was the post clavicular point of Valleix, I inserted the syringe within the angle formed by the clavicle and acromion, and injected twenty drops of a solution of muriate of morphia, of a strength about double that of the official preparation.

In about ten minutes after the withdrawal of the syringe the patient began to complain of giddiness and confusion of ideas; in half an hour the pain had subsided, and I left her in the anticipation of a refreshing sleep.

I visited her again about 11 a.m. on the 29th; was a little annoyed to find that she had never wakened; the breathing also was somewhat deep, and she was roused with difficulty. Under the use of somewhat energetic stimuli, however, these symptoms disappeared, and from that time to this the neuralgia has not returned.

CASE 2.—Mrs. —, æt. 30, of a gouty family, four years married, no family, short, and plump habit, very pale, menstruation scanty and painful, countenance anxious, urine high coloured, suffers much from flatulence and indigestion, tongue loaded, pulse 98.

After exposure to cold and damp, was seized with shivering and pain in the loins on the 9th December, 1853. I saw her on the 13th. The pain in the back had then subsided, but the whole region of the left hip was tender, a distinct painful point was felt near the posterior superior spinous process of the ilium, and another farther down, about the middle of the thigh.

Twelve leeches were directed to be applied as nearly as possible in the course of the sciatic nerve, their use to be assiduously followed by that of

warm fomentations, and one of the following powders to be taken every sixth hour.

R Pulv. Doveri, gr. v ;
 Pulv. Colchici, gr. iv ;
 Hydrarg. c. Creta, gr. ij.
 M. ft. pulv.

Next day (14th December) she was considerably relieved ; had enjoyed a short but refreshing sleep ; the bowels had acted three times freely, the motions being very dark and offensive ; thought herself much weakened by the bleeding and purging ; directed to continue the powders.

15th.—Tongue cleaner, gums swollen and spongy, coppery taste in mouth, tenderness of hip gone, the pain otherwise much the same as on the preceding day ; feels sleepless and uncomfortable ; bowels have not again acted.

Stop the powders ; take two turpentine capsules three times a day ; drink plentifully of linseed tea with gum dissolved in it.

16th.—Feels very uncomfortable, the turpentine has produced severe dysuria, pulse 104, tongue coated, the pain in the hip has not returned, but the pains are more severe and lancinating in the middle of the thigh and round the head of the fibula.

The syringe was introduced at the painful spot in the middle of the thigh, and ten drops of Battley's sedative solution were injected without any perceptible effect but that of slight smarting at the seat of the puncture. Two hours afterwards the pain ceased, and the patient fell into a deep sleep, from which she woke entirely free from pain in the thigh or leg, but suffering slightly in the region of the malleolus externus.

18th.—The pain in the malleolus is very severe, and is much aggravated by pressure ; the pain in the hip and thigh is entirely gone.

The injection repeated in the malleolar region. This operation was followed by no perceptible effect ; but in about four hours the pain began to abate, and ceased altogether in about eight hours from the injection.

The state of the patient's general health required some attention ; she is now much better, and her sufferings at the menstrual period are diminished, but she has had two slight returns of the sciatica, for which, at her own request, she has been treated by the opiate injections.

CASE 3.—Mrs. —, æt. about 50, widow, plethoric habits, hysterical temperament, has suffered since the cessation of the menstrual flux about ten years ago, from various anomalous symptoms, of a nervous kind, indicating great spinal irritation. Her liver is enlarged, and her heart is often functionally disordered. She has had severe attacks at different times of visceralgia, and has often suffered from neuralgia, chiefly of the dorso-intercostal and lumbo-abdominal varieties. Her very full habit, as also the cause from which these symptoms obviously arose, coupled with the evidence of cerebral congestion, with which her attacks were frequently accompanied, as also the fact of her pulse being these times full and firm, her skin hot, and her urine high-coloured, had led me to treat them by cupping, purging, antimonials, and salines. Opiates had no effect in alleviating her sufferings, and belladonna and aconite affected too powerfully her nervous system without abating her suffering.

I first tried the syringe with her on the 19th of April, 1854, when she was suffering from a severe attack of lumbo-abdominal neuralgia.

The syringe was inserted in the *lumbar point*, a little to the outside of the vertebra, and twenty-five drops of Battley's solution were injected.

She had an easier night, and the pain, though somewhat better next morning, was by no means removed, and the following day it returned with such severity that her former treatment had to be resorted to with decided relief. She has certainly suffered less since the operation.

CASE 4.—A married female, æt. 23, in the lower rank of life, consulted me May 2d, 1854. Had suffered three months previously from a miscarriage which had weakened her much; her countenance is exsanguine, lips nearly colourless, tongue and gums white. A loud bruit is audible over the heart and in the carotids. Has also had a great deal of mental distress.

About three weeks ago came from the country on the outside of a coach, and sat on a very damp cushion. Next day felt as if one leg was longer than the other; she had much pain in the lower part of the abdomen, in which she thought she felt a large painful ball. Pressure on the spinous processes of her dorsal vertebræ gives no pain; but a painful spot is distinctly to be detected a little to the left side. Os uteri open and flabby, very tender on pressure; surface velvety, much mucous discharge.

The following medicine was ordered, with nourishing food:

R Citratis Ferri, 3ij;

Syrupi, ʒss;

Aquæ Cassiæ, ʒvss.

M, Sumat coch. amp. ter in dies.

May 16th.—Somewhat improved in appearance, pain not abated; 25 drops of Battley's solution were injected into the painful point. About an hour afterwards was seized with violent vomiting, with shivering and severe constitutional disturbance; pain not abated.

May 17th.—Vomiting has ceased, but returns with every attempt to swallow, pain much worse, no sleep, tongue loaded, bowels costive. Ordered to use ice freely, and to take a drop of Fleming's tincture of aconite every third hour for four times.

May 18th.—Stomach much better, but the pain in the back is not abated. Ordered friction with the Tinctura Saponis c. Opio.

May 19th.—Pain, which was easier during the day, became much more severe at night, and she had an opiate by the advice of a friend. Severe vomiting followed its use, and it had no effect either in allaying the pain or in procuring sleep.

I recommended her to persevere with the iron for some time, but have lost sight of her.

CASE 5.—Mr. —, after much exposure to wet, consulted me on the 4th June, 1854, on account of a severe attack of sciatica. I prescribed a smart dose of calomel and rhubarb, to be followed by an antimonial mixture, and on the evening of the following day, injected 20 drops of Battley's sedative solution. Four hours afterwards he fell into a deep sleep, and wakened free from pain.

CASE 6.—Miss —, æt. about 50, very stout, consulted me, some years ago, about a uterine affection, accompanied with severe lumbo-abdominal neuralgia. The pain she suffered was great, and the lameness it occasioned entirely precluded the possibility of walking. I directed attention, in the first instance, to the uterine symptoms, hoping that, on their removal, the neuralgia would disappear spontaneously. In this, however, I was disappointed. Great benefit undoubtedly followed the relief of the internal disorder, and the lameness diminished perceptibly; still the pain evinced little or no disposition to abate. On the 2d June, 1854, I inserted thirty drops of Battley's solution. Severe vomiting followed, and the pain was entirely diminished.

From that date I directed my attention chiefly to the constitutional treat-

ment, until the increased severity of the pain drew my attention to it. I injected thirty drops of Battley on the left side on the 13th December, 1854.

Dec. 14th.—Pain on left side nearly gone; that on right very bad.

16th.—Repeat the injection on the right side.

17th.—Pain much relieved.

I saw this lady again on the 29th December. The pain was much easier, but she still continued lame, and the pain was apt to increase after any exertion.

CASE 7.—A gardener, advanced in life, after exposure to cold and wet, was seized, on the 19th November, with severe lumbago. This had yielded by the 2d December to the usual treatment; but there remained after its disappearance symptoms of that very rare form of neuralgia described by Cotungo and subsequently by Chassier, and denominated by Valleix crural neuralgia.

He says he has lost the power of his limbs, though this is obviously not the case.

There is a painful point in the loins, another still more marked in the groin, a third at the head of the fibula, a fourth on the dorsum of the foot.

Dec. 12.—15 drops of Battley's solution were injected into the painful point on the loins. Next day the patient reported that he had felt no peculiar effect except that the pain was entirely gone from every point but the knee.

CASE 8.—Mrs. —, æt. about 80, has been suffering for some time from severe pain in the chest, cough, with mucous expectoration, which, together with the cough, have prevented her from sleeping for some nights. She is extremely deaf, so that it is not easy to make out her symptoms. I visited her first on the 12th December, 1854. The bronchitic symptoms were then so severe that I directed attention exclusively to them. I need not detail the treatment, which has no bearing on the matter on hand. On the 21st, I found the cough nearly gone, but she was still sleepless from the pain of the back, which I then for the first time examined. A painful spot was soon pointed out by the patient herself, seated near the trochanter. The integuments here were deeply seamed and scarred, the result, she informed me, of deep incisions made when she laboured under what she called "white swelled leg" (phlegmasia dolens, I presume), 54 years before. Into this point I injected 30 drops of Battley. Next day (23d Dec.), when I visited her, she told me she had enjoyed a capital sleep: "but what was that you gave me?" she added; "I saw the most glorious visions all night." Since then the lancinating pain has ceased, though what she describes as a dull stounding pain remains.

CASE 9.—Miss —, æt. about 30. About twelve years ago, while travelling on the continent, suffered from severe influenza; while scarcely convalescent, by the breaking down of a bridge, was precipitated into a river, and had to sit some hours in a carriage with wet clothes. After this suffered from constant aching in the back, which rendered the supine position essential. Some amelioration of this took place under medical treatment. Her menstruation became scanty and painful; for this she consulted Dr. Simpson, and was relieved by his treatment. Since then has had attacks of pain in back at intervals.

Last spring, pain in back became severe, extending down to knee: was recommended to take aconite, which she found to give relief. Her left side is constantly cold. When in the country, her medical attendant scarified the back and rubbed in morphia. This was done nineteen times, and she obtained some relief, but the operation was very painful.

Dec. 24th.—The pain was brought on by exertion to-day, but is not very

severe. 25 drops were injected. She passed a very restless, uneasy night, with much vomiting; pain in back gone.

26th.—Slight return of pain; but on the whole better. I have heard since that this young lady's health is permanently improved.

Besides these cases, Dr. Wood relates two others in which the same treatment was tried by Dr. Wright, one successful, the other not; but in the last it must be confessed that the practice had not a fair trial.

This mode of treatment appears, indeed, to have several advantages. Quickness of action is one of these; and this is a great recommendation, for everyone knows how long we often have to wait before a narcotic, given by the stomach, begins to act. The rapidity with which the narcotic acts under these circumstances, not only upon the nerve locally, but upon the brain, causing, in some instances, the patient to feel as if drunk in a very few moments, points (in Dr. Wood's opinion) to this as an advantageous mode of giving narcotics in some other maladies than neuralgia, and even of giving other remedies than narcotics.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 23.—*The topical application of the Nitrate of Silver to the Larynx and Trachea in Croup.* By Dr. CHAPMAN.

(*New York Journal of Medicine*, March and July, 1854.)

Dr. Chapman relates ten cases in illustration of this mode of treatment, and then makes these comments:

"Setting aside spasmodic croup, arising from causes sympathetic, all cases assuming a fatal character naturally divide themselves into three classes—the membranous, catarrhal, and diphtheritic. The last differs from the first in frequently commencing by an exudation in the mouth or face, which by continuity of tissue extends into the respiratory tubes. In none of the ten cases reported by me was the diphtheritic exudation perceptible, though my attention was most particularly directed to discover it if present. All were either of membranous or catarrhal character; two of them had perfectly organized false membrane and recovered. Of four cases which, from the want of secretion till the caustic was used, and the appearance of the matters subsequently vomited, were judged to be of the membranous variety in the initiatory stage, three recovered, and one died. Of the two catarrhal cases, which were nearly moribund at the time caustic was resorted to, both died. One chronic case, from congestion of the mucous membrane of the larynx, was cured. One case, probably membranous, which recovered from the croup died two weeks afterwards from marasmus.

"Of these ten cases (including those previously reported), seven recovered from the disease and three died. The duration of the disease before the caustic was resorted to, was, respectively 72, 60, 36, 48, and 60 hours, and 4½, 6, 7, 5 days, and 18 months. Faithful and thorough medication was employed in all excepting one, before

resorting to the caustic, yet without avail. Not one of the nine acute cases, in my estimation, could, in the desperate strait to which they were reduced, have recovered by any other known method of procedure, excepting from the doubtful and unsatisfactory operation of tracheotomy, which in hands the most skilful and experienced yields results far from being favorable to its repetition. We can readily imagine a case in which suffocation might be imminent from an obstruction localized in the larynx and upper portions of the trachea, where tracheotomy holds out a solitary and perhaps the only hope for the patient. We have no time to wait for the remedial powers of caustic, which from its very nature requires an appreciable interval—very likely five or six hours—before its peculiar powers are displayed in subduing the inflammation or disorganizing the pseudo-membrane that may have been secreted. Unless greatly deceived, even such a case would not require the operation were the caustic thoroughly and efficiently employed at an earlier date, whilst the obstruction is not too serious, and the powers of life are still strong. We sadly need some remedy, more general and universal in its applicability than tracheotomy, to which we may appeal with confidence in all cases hastening on to a fatal issue, after active and efficient medication has been resorted to without producing a favorable crisis. Such a remedy, I confidently trust, we shall find in the nitrate of silver when its powers have been more generally tested, and its application to the seat of the disease becomes familiarised by frequent and careful practice. I do not despair of seeing it used with as great an assurance of success as in those other kindred inflammations of the fauces, of whatever nature or kind, in which we cauterize so confidently, and with such beneficial effects. Even in diphtheritic pharyngitis, between which and the false membrane of tracheitis there is such a close resemblance, we confidently appeal to this remedy, almost certain that the inflammation will subside, and the exudation be detached in shreds and disorganized portions before the almost magical power of this potent article. Its efficacy when thus applied can be observed by the eye. I trust that it will be found that the mucous membrane of the larynx and trachea, of a similar organization, will be equally amenable to the treatment by cauterization as a like disease in the pharynx, whether the disease consists of inflammation or has resulted, in addition, in a lymphatic exudation of pseudo-membrane. Analogy bears me out in asserting, what my experience demonstrates, to my own satisfaction at least, that similar tissues, affected with similar diseases, require for their cure the same remedial agent, unless there are good reasons why its powers would be less efficacious in the given case."

The three following cases may serve as examples of the rest:

CASE 2.—May 5th, 1854.—Child of Mr. S., Amity St., æt. 18 months, suffering from an attack of the croup for six days. For the last two days it had been under the careful and judicious management of Dr. Drake, who had employed all the usual means of combating the disease—viz., antimony in divided doses, mercurials, warm baths, cathartics, &c., but all without avail. An antimonial emetic failed to operate, though continued until three grains had been given. The patient presented the following symptoms:—Laborious

inspiration, with a permanent constriction of the calibre of the larynx, and attended with a dry whistling sound, as though the mucous membrane was devoid of moisture; no violent exacerbations; voice muffled and, nearly suppressed; cough dry, ringing, and sonorous; pulse full and strong; skin disposed to perspiration; chest not implicated. As Dr. Drake had tried the approved means of treatment assiduously, without producing any beneficial effect, we resolved to resort to the caustic without further delay. Emesis occurred, with the discharge of a substance gelatinous and albuminous in appearance, mixed with shreds which had the semblance of false membrane in the formative stage. Ordered Hydrarg. Sub. Mur., gr. iss, Cretæ ppt., gr. viij. M. ft. chart. No. viij, S. one every third hour; also one sixteenth of a grain of antimony every second hour, for the purpose of producing a nauseating effect.

6th.—Laryngeal symptoms slightly improved. Reapplied caustic with an effect similar to the day previous, directed a cathartic, and omitted the mercurial. Ordered Syr. Senegæ, ℥ij; Ipecac., ℥j, given to produce vomiting at first, afterwards in 3ss doses every hour.

7th.—Improved. Continue treatment.

9th.—Cured.

CASE 4.—March 27th, 1854.—A child of Mr. G., Wolcott Street, æt. 20 months, labouring under an attack of croup for five days, had been treated by domestic prescription until the day previous, when Dr. Brooks, a well-known practitioner of this city, was called to attend it. About the same time, Dr. Harris of Williamsburgh saw the case. They employed the usual means for combating the disease, but without producing any change in the unfavorable features of the case. In the evening an attempt was made to introduce caustic into the windpipe. On the morning of the fifth day the caustic was applied a second time. At 4 p.m., when I first saw the patient, it presented symptoms almost identical with the last case. There was a catarrhal condition, sub-inflammation of larynx, trachea, and bronchial tubes, which had attempted resolution by a profuse secretion of mucus. The child was in a half-somnolent, torpid condition, aroused with considerable difficulty, and breathing not only as if there were great constriction about the larynx, but much more rapidly than natural. The tracheitic symptoms, though the mucous secretion was very free, were of the most grave and serious character. Moist rhonchi were heard all over the chest; percussion clear. We applied caustic, as in the preceding cases, directed an expectorant of senega, squills, and carb. ammonia, and a blister four inches square to the chest.

28th.—The child died, at 9 a.m., of extensive inflammation of the bronchial mucous membrane.

CASE 5.—March, 1854.—Master W., from Massachusetts, a lad, æt. 10 years, consulted me on account of an affection of the larynx and trachea of eighteen months' duration, attended with a croupy cough. Hoarseness constant; subject to exacerbations from changes of the atmosphere; tenderness in the crico-thyroid space. I applied caustic on eight different occasions, with an interval of from four to six days. His symptoms constantly improved, and on the 1st of May he was discharged cured.

ART. 24.—*On certain points connected with Pneumonia.*

By Dr. ROUTH.

(Medical Times and Gazette, April 7, 1855.)

I. In Dr. Routh's opinion, pneumonia is an adynamic disease. It is the natural consequence of the thinning or impoverishing of the blood. He rests this opinion mainly on the experiments of Magendie, which show that, by injecting defibrined blood, pus, or putrid matter, into the blood, pneumonia was almost invariably produced. The production of fibrine, in the course of the disease, is a secondary result, due to increased respiration. The blood also is deficient in chlorides, the first effect of which is also to produce unusual fluidity of the blood, and general dropsy, as a consequence; and the second, to lead to a deposition of the fibrine, which, being increased in quantity, is no longer capable of being held in solution, both from the absence of the chlorides, and of the alkaline phosphates, which derive their soda base from the chloride of sodium. The occurrence of pneumonia in cases of wounds, or after surgical operations, is explained by the absorption of putrid matters or pus, and the necessary fluidity of the blood. Lastly, the causes of pneumonia are statistically shown to be very frequently those which bring about fluidity of the blood. Pneumonia, also, is most fatal in proportion as it is of a low type. From these facts Dr. Routh concludes that the disease is essentially adynamic.

II. In regard to the diagnosis, Dr. Routh shows, from the Registrar-General's reports, that the disease called pneumonia is made to include a variety of other diseases of a totally different character. Taking the years 1840 to 1844, inclusive, for London, the deaths are, from pneumonia, one half in number those registered from phthisis, and eight times those from bronchitis; and for all England, for the years 1847 and 1848, they are nearly equal to those from phthisis, and twice as numerous as those from bronchitis. Capillary bronchitis is not even mentioned, a result altogether opposed to hospital experience.

Pneumonia was very often confounded with simple pulmonary congestion, capillary bronchitis, and a particular variety of pleuritis. Dr. Routh points out the differences of these three diseases, by the physical signs, general symptoms, and peculiar characteristics of the dyspnœa, cough, and expectoration, dwelling particularly on the so-called fine crepitation, upon which so much stress is laid in the present day. Some allusion is also made to œdema of the lungs, and pulmonary apoplexy.

In regard to the prognosis, Dr. Routh believes that, within favorable ages, the disease is generally curable by *any* prudent treatment, although more fatal, as a rule, in Great Britain, because more than 53 per cent. are generally complicated cases.

III. In regard to the theory of the treatment, blood-letting had been recommended, because—

1. It is said to diminish the amount of fibrine, but it has been shown by Andral, Gavaret, Simon, and others, that in pneumonia,

rheumatism, peritonitis, &c., the fibrine is not diminished till after the *fourth* or *fifth* venesection; but even the advocates of bloodletting generally disapproved of such heroic venesections.

2. It was said to diminish the fever, and the severity of the general symptoms. Dr. Routh admitted this; but then it must be carried to great excess, and the secondary consequences, debility, and a long period of convalescence, were the results.

3. It was said to diminish the severity of the local symptoms. This was the exception, not the rule, and opposed to the experience of Grisotte, Todd, Chomel, and Ragori; and Laennec even went so far as to say that, in intense pneumonia, it aggravated the symptoms. Bloodletting, perhaps, shortened the duration of the febrile excitement, but lengthened the convalescence. Dr. Routh therefore concludes, that the treatment by bloodletting is pathologically and physiologically unphilosophical.

ART. 25.—*The hot-douche to the spine in Typhoid Pneumonia.*
By Dr. JONES, of Petersburg, Va.

(*Montreal Monthly Journal*, March, 1855.)

This mode of practice is not recommended in all forms of pneumonia, but only in cases “in which there is a torpor in the superficial vessels, a tendency to collapse, and an urgent necessity for the production of immediate reaction.” Perhaps, also, it is more applicable to coloured than to colourless patients. Two cases are related in illustration.

CASE 1.—A strong, athletic negro, æt. 25 years, had been ill for nine days, with all the symptoms of well-marked typhoid pneumonia. His system was reduced by the injudicious use of purgatives and emetics. I found him in the following condition. He was lying on his back with his knees drawn up; skin cool and rough; countenance sunken, pulse low; disinclination to move, and evident symptoms of considerable cerebral disturbance; his tongue was loaded with a thick brownish fur, and slightly red and pointed; bowels sunken and tender, with a slow and occasional hurried respiration, interrupted frequently with cough, followed by expectoration of a muco-purulent appearance, which latter, I was informed by his master, had a few days previously been dark brown, and slightly bloody. There was evident flatness over both lungs, but the right lung seemed to be most involved. For several hours previous to my visit, blisters had been on the surface, without producing any vesication whatever, so entire was the inactivity of the capillary circulation. Whilst in the above condition, the patient was placed on the floor on his face, and about five gallons of water, at a temperature so near the boiling point as barely to allow the immersion of the hand, was thrown immediately on the spinal column, which seemed to arouse his sensibilities somewhat, as shown by an effort to cry out; he was well rubbed, and wrapped in blankets, and removed to bed. Fifty drops of laudanum, with a small quantity of thin starch, was thrown up the bowels by injection, and pressure applied to aid him in retaining it, which he did. In a short time he was asleep, and slept for two hours. During his repose, he seemed to breathe with more freedom, and, upon an examination of his pulse, there was evident improvement, and a

very rapid approach to reaction took place. Nourishment was offered, which was taken, when very soon after he fell into a deep and quiet sleep.

I left him with directions to repeat the hot water in four hours, in case reaction was not complete. I also directed 10 grs. of Dover's powder, at bedtime, and nourishment during the night.

On my return the next morning, I found him in quite a comfortable condition, complaining only of slight soreness along the spine, and very anxious to take nourishment, which was given at proper intervals. With the exception of some quinine in small doses, this was all that was done for him, and in a few days he was entirely restored to health.

CASE 2.—A young negro woman, æt. 18, was taken with all the symptoms of pneumonia. When I was called in, she had been sick six days. She had been bled, blistered, and treated according to her condition, previously to my seeing her, with evident benefit, until the afternoon of the sixth day. Hot water was thrown on the spine; she reacted at once, and was put on the use of calomel, quinine, and Dover's powder, in proper proportions. It was not necessary to repeat the hot douche, and after a few days she convalesced rapidly.

I might proceed to relate many cases in proof of the efficacy of this method of treatment as an adjuvant to the remedies commonly employed in the cure of typhoid pneumonia. Nothing, in my hands, has been so effectual in re-establishing the capillary circulation as this powerful revulsive.

ART. 26.—*Cases of plastic Bronchitis.* By (1) Dr. FULLER, Assistant-Physician to St. George's Hospital; (2) Dr. THIERFELDER, of Leipsic; and (3) Dr. PEACOCK, Assistant-Physician to St. Thomas's Hospital.

1. (*Pathological Transactions*, vol. v, 1854.)

2. (*Archiv. Générales de Méd.*, Oct., 1854.)

3. (*Medical Times and Gazette*, Dec. 30, 1854.)

Three cases of this somewhat rare affection are here recorded. The second and third are also made the texts for elaborate memoirs on the subject, in which other cases are cited and commented upon, and to which we beg to refer any one of our readers who wishes to investigate the subject more fully. These memoirs, however, contain no special novelty which we need notice here, and we therefore leave the cases to tell their own tale.

1. *Dr. Fuller's case.*—The patient in this case was a widow, æt. 25, under Dr. Fuller's care at St. George's Hospital. She was well made, of average robustness, of somewhat dark complexion, and pale, but not unhealthy in appearance. She states that her habits are in every respect temperate and regular. Her parents both died at the age of 59, of cholera; her father was a healthy man; her mother had suffered during nearly twenty years from cough and occasional hæmoptysis. She had five sisters and one brother, of whom two sisters and the brother survive. Her other three sisters are reported to have died of consumption: two at the age of thirty, and one at the age of fifteen. The latter is reported to have expectorated fibrinous casts of the bronchial tubes for at least two months before her death, and it is questionable whether she did really die of consumption. As a child, this patient enjoyed excellent health, and up to the present time she has not had measles, whooping-cough, or croup; at the age of fourteen, however, she was seized

with ague, and about a twelvemonth afterwards began to suffer from cough and dyspnœa, accompanied by the expectoration of small pieces of plastic material. Not a winter has passed since that time without her experiencing a recurrence of these symptoms, which, during the last four years, have been of more than usual severity, and have not been confined to the winter months. The most severe attack she has undergone was last summer, when she was in St. George's Hospital, under the care of Dr. Page. The dyspnœa at that time was so severe, that it was for some time doubtful whether the attack might not prove fatal. The casts at that time expectorated were tubular, and of much larger size than those now exhibited. Some of them were four inches in length, and at their large extremity about the diameter of an ordinary cedar drawing-pencil. Dyspnœa was a more prominent symptom than fever. She remained in the hospital thirty-seven days, during the whole of which period she continued to expectorate these plastic casts in greater or less abundance. She came under Dr. Fuller's care on the 10th of last December, and then stated that she had continued to expectorate these masses at intervals ever since her discharge from the hospital. During the last week, however, the cough and dyspnœa had become much more urgent, and the day before she applied to Dr. Fuller, she had expectorated a plastic mass of considerable size. There was no pain in the chest, and little or no fever, but the dyspnœa was so urgent, as to produce complete blueness of the lips. She was ordered calomel, and opium, and salines, and alkalies, in full doses. In the course of three days she expectorated another large plastic cast, the getting rid of which afforded great relief, and she has been easier ever since. Lately, she has not had hæmoptysis; but on several occasions, during the extreme violence of the cough in her former attacks, she spat a small quantity of blood. She states, that in a warm room, and breathing warm dry air, she does not experience any inconvenience with the respiration; but that ever since her attack last summer, she cannot long expose herself to cold and damp, without incurring the penalty of an attack of dyspnœa, followed by expectoration of these fibrinous casts. The expectoration of the casts is usually preceded by incessant cough for a period of about three days.

2. *Dr. Thierfelder's case.*—This case occurred in St. James's Hospital, at Leipsic, the patient (Christian Kreutzberg, a hotel-waiter) being forty-four years of age, and unmarried. He began to cough and spit in 1851. Two or three weeks afterwards, his expectoration became more difficult, and from this time he has continued to void solid masses, of a bloody colour, and sometimes as long as his thumb. His health, however, suffered but slightly; he has continued to follow his occupation of a waiter, only feeling some little difficulty of breathing when he had to mount several flights of stairs at once. He was admitted into the hospital in June, 1851. At this time he was in good condition, and sufficiently strong. The thorax was large, and well developed, but slightly protuberant on the right side. The respiratory movements were 24 in the minute, and somewhat fettered, the sterno-cleido-mastoid muscles, which were largely developed, taking a larger share in them than they ought to do. The right side, also, moved somewhat less freely than the left. On percussing, the liver was found to encroach very considerably on the right side, and the sound elicited on this side was "*plus court*" than on the other. On the right side, in front, the respiratory murmur was louder than on the other, and accompanied with slight and indeterminate râles below the level of the third rib; on the same side, behind, the respiratory murmur was less distinct, and there were whistling and sonorous sounds. The cough was not frequent, but violent, happening generally at night; and in the paroxysms,

the patient, after much effort, rejected considerable quantities of serum, and frequently four or five fibrinous bronchial casts.

For two months after his admission, the patient continued in very much the same state, except that his general health suffered sensibly, in spite of all efforts to the contrary. There was little or no change in the expectoration, but there was considerable fluctuation in the auscultatory phenomena.

Matters went on in this way until the 12th of August, when, in the night, and without appreciable cause, he was seized with violent cough and profuse expectoration. On the day following, there was considerable dyspnoea, the respirations being 36, and the pulse 104; the face was cyanosed, and the cough convulsive. In a few hours these symptoms subsided, under the use of emetics and antimonials. On the 15th, and again on the 18th, the patient relapsed into the same state in which he was on the 12th, again to get out of it by the same means.

On the 19th he was put under the influence of mercury, and under this treatment the expectoration was sensibly diminished, the clots becoming softer and smaller, as well as fewer in number. The gums became affected on the 25th, and the mercury was discontinued. The improvement was only temporary, and in four days the patient was in the same state as when admitted into the hospital.

After this, the iodide of potassium was again tried, and with some apparent benefit, but no material alleviation had taken place in the symptoms when the patient was finally discharged, two months later.

The more perfect clots were much branched, and clearly corresponded to the ramifications of the bronchial tube; and their composition was like that of the false membrane which is voided in croup.

3. *Dr. Peacock's case.*—William Chambers, æt. 11, was admitted an out-patient of St. Thomas's Hospital, on March 17th, 1854.

His mother stated that he had always been delicate, and that, when about six years of age, he had an attack of influenza, and had since that time been subject to cough and expectoration. His grandfather died of consumption, and his father, now 34 years of age, labours under symptoms of phthisis, and has had three attacks of hæmoptysis. His mother and her family are healthy. Of his brothers and sisters two out of six are dead, one having died of croup, the other of consumption; the three still living are healthy.

After the attack of influenza, his mother observed that he occasionally spat up pieces of skin, which spread out when put into water. He continued to expectorate this kind of matter for five or six months. After this attack, he remained well till three years ago, when, after exposure to cold, he was again taken ill, and at the end of about a month began to spit up the pieces of skin; but, after six months, he recovered his usual state of health.

In May, 1853, he had another similar illness, in which he expectorated solid matter, and continued to do so till the June following, when he became tolerably well, though still suffering at intervals from cough, debility, and pain in the limbs and head.

He has now had the peculiar expectoration since Christmas. He took cold at the end of the year, and had profuse epistaxis. The masses are generally brought up after a hard ringing cough, which comes on in paroxysms, and threatens suffocation; but sometimes they are expelled with very little effort. Usually only one portion is spat up at a time, but the expectoration is sometimes repeated every hour or two hours. The paroxysms of coughing are caused by any exertion or excitement, and are relieved by the expulsion of the membranes. His mother states that the bodies expectorated have always the form of a trunk and branches, and they are generally an inch and a half long.

They have a white colour, and he has never brought up any blood with them. His voice has never been affected, but he is habitually short breathed.

He was directed to take an expectorant and anodyne mixture, containing small doses of the potassio-tartrate of antimony, ipecacuanha wine, and compound tincture of camphor, with an alterative of hydrarg. c. cretâ, soda, and rhubarb.

The following notes were taken on the 20th March. His appearance is unhealthy; his cheeks and lips are livid, and the latter tumid; his hands are also livid, and the nails slightly incurvated. He is thin, and the skin dry and scurfy. The chest is narrow and contracted, and the veins in front are very conspicuous. It is altogether less resonant than natural, and the deficiency is more marked at the left apex posteriorly than elsewhere. The respiration is puerile in front, but is feeble in the dorsal and lateral regions, and is there attended with a slight subcrepitant rhonchus. The heart's sounds are natural. The tongue is somewhat furred; the pulse feeble and accelerated. The sputum which his mother first brought to me consisted of the ordinary bronchitic secretions, containing small shreds of white membrane; but to-day I have received several portions of solid material, which were expectorated two days ago. When expanded in water, they are about an inch in length, and have a trunk of about the size of a crow-quill, with numerous small branches diverging from it. The solid portions are composed of white membranous laminae arranged concentrically; and though somewhat softened from the length of time which has elapsed since their expulsion, have considerable resistance; none of the pieces have the slightest tinge of blood.

He was directed to continue the same course as before, and in addition, a pill containing Dover's powder and hyoseyamus was ordered to be taken at night, and a blister to be applied between the shoulders.

April 3d.—Since the last notes were taken, he has continued to expectorate the membranous bodies every second or third day; sometimes they are brought up with a cough; at others, they rise into the throat and are expelled with a feeling of sickness, either by the mouth or through the nostrils. He has brought up a considerable mass about two hours ago; they have the usual form: the largest piece is about two inches in length, the trunk is as thick as a writing-quill, and the subdivisions decrease in size till they become very minute. His mother thinks the masses grow larger; of various portions which I have seen, all have been unmixed with other secretions, and free from any appearance of blood. Upon the whole his general health continues much as before, but his mother thinks he is losing flesh. The left side of the chest is altogether somewhat less resonant than the right, and the difference is most marked at the left supra-scapular region. A slight irregular subcrepitant rhonchus is heard in every part, but is most distinct at the upper portions, and especially at the left side posteriorly. When last examined, a distinct valvular clicking sound was heard in the left supra-scapular region, but this does not now exist. He was directed to take the oleum jecoris with quinine and iron, and an anodyne and expectorant.

May 4th.—He has continued to expectorate the fibrinous casts at intervals since the last date. One or two masses are generally brought up during a day, or for a day or two, and then he does not expectorate any more for five or six days. The pieces gradually increase in size, and his mother has brought me some to-day expectorated within the last few days, and one of them last evening, larger than any which I have seen before. He is not improving in appearance; his face is much flushed; he does not gain flesh, but his appetite is a little better. He suffers from difficulty of breathing before expectorating the masses, and this is relieved after; he has some cough at the time, but he

brings them up more readily than before. The physical signs remain as before. To continue the oil and tonic, and apply a blister between the shoulders.

25th.—He has latterly improved, and now suffers less from difficulty of breathing and cough; his appetite is better, and he is gaining strength. He only expectorated some small fragments of membrane from the date of the last report to the 22d, since which time he has spat up several large pieces, and one to-day. The deficiency of resonance on percussion at the left apex, posteriorly, continues, but the increased sense of resistance is more marked than the dulness. There is no appreciable difference between the two sides in front. The respiratory sounds at the left apex, both before and behind, are rougher than elsewhere, but there is no valvular sound. There is a slight rhonchus at the end of a forced inspiration at the right infra-clavicular region, and respiration is harsh in the dorsal regions.

June 12th.—Since the last date he has only three times brought up any solid material, and the pieces expectorated have all been small. The cough is less troublesome, and the membranes are expelled with little effort. His face is less livid, tongue clean, pulse feeble, quiet. Generally, his mother says, he improves in warm weather.

July 17th.—It is now six weeks since he expectorated any casts. He is looking stronger and stouter than before. Tongue clean, pulse quiet, digestion and appetite good. The chest is still sparingly resonant above; it is equally so on both sides in front; but behind there is some deficiency at the left supra-scapular region. The respiration is natural everywhere, except in the lower dorsal regions, where it is slightly harsh. Soon after this time he ceased attending at the hospital.


ART. 27.—*On the differential diagnosis of Pneumonia and Pleurisy.*
By Dr. GAIRDNER, Physician to the Royal Infirmary at Edinburgh.

(*Dublin Medical Press*, Feb. 28, 1855.)

In this paper Dr. Gairdner considers how far we possess the means of accurately distinguishing those acute diseases of the chest which are at present described as separate nosological forms of disease. The inquiry is one of great interest; pneumonia, for example, has for years been regarded as *the* acute disease by which we tested our systems of treatment. It was important, therefore, to know whether we could so mark it off as to be able, with sufficient accuracy, to make numerical statements as regards its cure by different remedial agents. Again, pneumonia is the disease on which homœopathy and other late systems of treatment rest their claims, and in the treatment of which they boast their great success. Up to the eighteenth century, we find pleurisy occupying the same relation to medical literature as pneumonia does now. Did this difference of names depend on a change in the nosological type of diseases, or is it not rather a change in the ideas of the observers, who applied different names to the same disease? Dr. Gairdner believes the latter to be the true explanation. A fallacy, too, of common occurrence is, that when we have ascertained a pneumonia to be present, a series of such cases can be submitted to treatment, and the results tabulated, on the supposition that the cases are similar. In the author's opinion, however,

pneumonia, in all cases, is not so clearly definable a disease, and, even if we could distinguish it, we could not be any nearer the solution of the question, as it is a disease which varies infinitely and requires for each case a separate adaptation of treatment. That pneumonia presents, even to well-informed and honest physicians, unusual latitude for diagnostic variations, Dr. Gairdner shows, by a copious enumeration of the various chances of error, which must be taken into account; among which, special reference is made to pulmonary collapse, cases of which, from the identity of the physical signs, might be easily classed as pneumonia; and to bronchitis, in the course of which pneumonia so frequently supervened and escaped detection. The differential diagnosis of the two diseases is dwelt upon, and it is shown that, in many cases, the practitioner is necessarily foiled in his differential diagnosis. Should, again, there be an arbitrary exclusion of cases where the two diseases are complicated, we should have a very large proportion of the most dangerous and fatal forms of pneumonia got rid of, and the value of our tables so far vitiated. Again, one man might include, and another exclude, cases of pneumonia, modified by some peculiar constitutional tendency, as fevers of specific type, Bright's disease, syphilis and gonorrhœa, delirium tremens, diabetes, and tubercle.

In the pneumonia of the old authors, we have cases of pleurisy included; and Laennec considers the cases of pneumonia which he tabulated as more favorable for treatment, as, by his improved methods of diagnosis, he was able to separate the pleurisies from the pneumonias. And yet, of late years, the opinion has gained ground that the statistics of pneumonia would be improved by the addition of a few cases of pleurisy, which is a less fatal disease. The differential diagnosis of the two diseases, pneumonia and pleurisy, is fully considered in the cases where the two affections are combined; Dr. Gairdner believes it to be extremely difficult to indicate in a satisfactory manner to what extent the pneumonic, and to what extent the pleuritic elements respectively are present. From an analysis of 41 cases of pneumonia occurring in hospital practice, it appears that in only 8 was pleurisy absent, and of these 8 cases there were 6 where there was incipient broncho-pneumonia; in 1 there was incipient abscess, and in 1 there was hemorrhage of the lung. There is not a single case of fully formed and fatal pneumonia unaccompanied by a considerable amount of pleurisy. In 47 cases of pleurisy and fibrinous dropsy, there are only 4 cases of uncomplicated pleurisy. It results from these considerations, that acute uncomplicated pleurisy and pneumonia occur so seldom that any attempt to separate them in diagnosis must fail, as the elements for such a distinction do not exist in practice.



ART. 28.—*Case of Diaphragmitis with Pleuritic Effusion.*

By Dr. CORSON, Physician to the New York City Infirmary.

(New York Journal of Medicine, Nov., 1854.)

Inflammation of the diaphragm is a rare affection, and any new example is worthy of attention. This case, indeed, is only circumstantial, there being no *post-mortem* verification of the diagnosis, but the symptoms are very characteristic. The striking early symptoms of the presence of motion in the thorax in breathing, with its absence in the abdomen, reversing the signs of pleurisy; the existence of the respiratory murmur on the side affected, faint, indeed, from pain; and the absence of dulness, on percussion, in the localization of the injury, with the diaphragm as its centre; and the return of the first pain to that spot; the terrible severity of the distress, exceeding that of ordinary acute pleurisy; and the true *risus sardonicus*; all point to the diaphragm as the seat of the first inflammation. Some of these symptoms, it is true, are subsequently modified by the extension of the inflammation upwards. Other frequent signs of inflammation of the diaphragm are also absent. The probable limitation of the inflammation to the extreme left portion of the diaphragm may explain the absence of hiccough and vomiting, which symptoms are usually present when the central portion near the stomach is affected. Delirium was also absent, but this symptom is not essential.

E. C., æt. 42, lighterman, strong and muscular, was struck, on the 18th of October, 1853, with the boom of a lighter, over the edge of the left ribs, or from the seventh rib above and laterally, and from within two inches of the spine posteriorly, downwards and forwards over the floating ribs, and left hypochondrium, producing considerable abrasion, discoloration, and tumefaction, but no fracture of the ribs. He was senseless from the blow for several minutes, and faint and collapsed for two hours. On my reaching him, six hours after the injury, he was just beginning to rally, though the pulse was still somewhat feeble and slow. He complained of occasional severe pain in the region of the diaphragm; sometimes shooting towards the umbilicus, with considerable difficulty of breathing; respiration mainly thoracic. The distress was increased by pressure from the abdomen upwards. Ordered twelve leeches and an anodyne poultice over the bruised ribs; and, to relieve the bowels, previously torpid, and abdominal pain, a brisk purgative of compound jalap powder, ginger, and calomel; to be followed by low diet.

19th.—Much the same. Bowels moved freely towards noon. At five o'clock in the afternoon I was suddenly recalled in great haste, and found him with the knees retracted, the head raised, panting for breath, *with his face completely distorted with the sardonic grin, and screaming at every breath, with pain referred to the region of the diaphragm*, accompanied with a sense of great constriction. Respirations 30, thoracic; pulse 90, firm. He was promptly bled from the arm from a large orifice, to 24 ounces. He fainted immediately from the bleeding, and several times subsequently, so as to suppose himself dying, with the effect of relieving the terrible pain till the faintness left, when it returned. Ordered two grains of opium and five of Dover's powder every hour. Having taken about eight grains of opium in three hours, with little soothing effect, with stimulants, and the finger on the pulse, then somewhat rallied, he was, in the most cautious and gradual manner, allowed to

inhale, at intervals, a mixture of equal parts of ether and chloroform, till, in an hour after, the pain was lulled as by magic, and he fell asleep. Ordered soon after two grains each of opium and calomel every four hours.

20th.—No marked dulness over the lower part of left lung discovered on the light tapping that could be borne: loss of motion in the side, probably in part from pain. Respiratory murmur faintly heard; area of dulness enlarged over the spleen; *frequent greenish slimy stools tinged with blood, with dysenteric griping*; tongue with whitish fur; thirsty; pulse 90, compressible; complains of exhaustion with pain; rather severe in the left hypochondrium, sometimes shooting towards the umbilicus. Ordered to discontinue calomel, but continue the opium in two-grain doses with morphia suppositories; *and a very large blister* over the left hypochondrium and reaching to the umbilicus; directed to use rice-water and arrow-root with beef-tea.

21st.—Blister acted “like a charm;” pain was quite gone, allowing a better examination; there was some dulness on percussing the ribs; loss of motion; absence of respiratory murmur; indicating *pleuritic effusion* from the margin of the ribs about four inches upwards; stools rather dysenteric, but improving; the urine was reddish and charged with lithates.

22d.—Passed a couple of large evacuations, mostly of dark liquid blood; spleen diminished in size; otherwise the patient was much better. The irritable bowels were quieted with powders of bismuth and opium; the moderate pleuritic effusion yielded in a few days to a succession of blisters, and five-grain doses of the iodide of potassium, three times a day in a mixture, with a few drops of camphorated tincture of opium.

From this time, with broths and nourishing diet, he steadily improved; and, three weeks after the accident, was discharged cured.

ART. 29.—*Case of Paracentesis Thoracis.*
By Dr. HUGHES, Physician to Guy's Hospital.

(*Assoc. Med. Journ.*, Jan. 5, 1855.)

In the paper from which this case is taken, Dr. Hughes relates three others, in which recovery was prevented by malignant or other incurable mischief, and in which the effects of the operation, for good or harm, are not easily appreciable. The case which we select, however, is an admirable instance of the advantages resulting from prompt surgical interference in cases of this kind.

CASE.—*Pleuritic Effusion; Paracentesis Thoracis; Relief; Rapid Cure.*—J. P., æt. 26, by trade a gunmaker, and residing in Whitechapel, was admitted into Stephen ward (No. 19) on March 1st, 1854, under the care of Dr. Babington. He was unmarried; his parents were yet alive; and he had eight brothers and sisters, all of whom were healthy. He stated that he was never very strong, or in robust health; but that, for the last four years, he had been occasionally liable to shortness of breath, but not to such a degree as to compel him to desist from his occupation. His present disease commenced about a fortnight before admission, when he was attacked with a very severe, sharp, and stabbing pain in the right side, accompanied with rigors and general febrile symptoms. He kept his bed for four days, and then went to consult Dr. Habershon, by whose advice he was much relieved; but he was subsequently induced to apply for admission into the hospital. He then complained of pain in the chest, especially between the shoulders, and beneath the sternum. He had very slight

dyspnœa, but a frequent and painful cough; the pulse was small, compressible, and 100 in number: the skin was hot; the tongue furred, and rather dry; the bowels were confined; micturition was natural. General dulness upon percussion existed, both before and behind, over the right side of the chest; together with very marked ægophony; and, upon the left side, the respiration was puerile. He was ordered, upon his first admission, a saline mixture, with fifteen minims of antimonial wine and twenty minims of tincture of hyoscyamus, to be taken three times a day; and to have low diet.

March 3d.—There being no improvement in any of his symptoms, and his distress of breathing being now urgent, a trocar was introduced by Mr. Hilton at the upper edge of the ninth rib, and about twelve ounces of clear serum were withdrawn. He was ordered to take the following pill three times a day:

R Pilulæ Hydrargyri, gr. iij;
Opii, gr. ¼. M.

As his bowels were confined, he was ordered also to take immediately a scruple of the pulvis rhei salinus. ('Guy's Hospital Pharmacopœia.')

4th.—He felt very comfortable this morning. The pulse numbered 96, and was small and feeble; the tongue was coated; the bowels confined. He was ordered to take immediately a scruple of pulvis rhei cum calomelane; and to continue the medicine.

10th.—He was going on quite well; but he still complained of pain, between the shoulders, of cough, and of incapability of taking a deep inspiration. The bowels were open; and the mouth was affected by the mercurial. His appearance had much improved.

16th.—He was much better; the pills had been omitted; and he was ordered to have a blister applied.

22d.—He was much better; slept and ate well. He had but very little pain indeed, and got up daily. An aperient was ordered.

April 3d.—He complained of pain in the right side, at the seat of the puncture; and felt weak. The chest was quite free from fluid. The bowels were open and the appetite good. He was ordered ten minims of tincture of digitalis in saline mixture, three times a day; and was put upon a low diet; and, a few days subsequently, had a belladonna plaster applied.

17th.—He was relieved by the plaster, and was quite free from pain when quiet; but, upon exertion, had some pain in the right side. No dulness existed in the side, nor could any friction sound be heard upon deep inspiration. He felt quite well, and upon this day was presented.

Remarks.—"This was a case of acute pleuritic effusion, in which, as I believe, paracentesis was performed, not so much with the view of simply curing the complaint, as for the purpose of curing it quickly, and especially of relieving urgent symptoms. To this end the operation was intended to be subservient; and this object it happily effected. The record is a good illustration of the utility of the operation in such cases, as well as of the trifling inconvenience which, when it is executed with care and after due examination, results from its performance. The operation, however, it must be acknowledged, is but rarely necessary for these especial purposes; and, among the many cases of paracentesis thoracis which I have recommended, witnessed, or performed, I recollect very few indeed in which, under similar circumstances, it appeared to be demanded. One, however, published in a former paper, is forcibly impressed upon my

memory. It was a venereal case of my colleague, Mr. Cock's. Without obvious cause, the patient was suddenly attacked with large pleuritic effusion—a perfect *water-stroke* of the pleura. He was incapable of lying down, and breathed with the greatest anxiety while sitting up in bed. The left side of the chest was found, from the physical evidences afforded, to be full of fluid. A trocar was introduced, and some pints of fluid were evacuated, to his immense relief. In about three days, the operation was repeated, with similarly beneficial results; after which he got quite well, under the ordinary treatment for such affections, and lived for several years; and, to the best of my belief, now lives in good health, to record his gratitude for, and to exult in the beneficial effects of the operation.”

ART. 30.—*Prevention of the entrance of air in Paracentesis Thoracis.*
By Dr. T. WALKER, of Peterborough.

(*Assoc. Med. Journ.*, April 6, 1855.)

Let a piece of quill, fitted to the tube of the canula, be prepared by wrapping round it and securing with a bit of thread, a small piece of thin wash-leather, or sheepskin, rendered limp by wetting it. Immediately on withdrawing the trocar, this quill is introduced into the canula: the wet leather forms a pendulous prolongation of the tube, an inch and a half long, or a little more, through which the fluid will flow freely; but the moment that the slightest act of suction takes place, which, as the chest gets empty, invariably happens, it will act as a valve, and prevent the possibility of any air entering by the tube of the canula.

Of course, the ordinary precautions to prevent the admission of air through the opening made by the trocar, either before or after the puncture, are not neglected.

ART. 31.—*The treatment of Phthisis by Fluoric and Oxalic Acids.*
By Dr. HASTINGS.

(*Lancet*, Jan. 3, 1855.)

The subjoined cases are intended to show that these acids, when administered in medicinal doses, are not only innoxious, but frequently useful in checking the progress of phthisis. How these acids act, Dr. Hastings does not explain. He thus relates:

CASE 1.—*Cavity in the upper part of the right Lung; beneficial effects of oxalic and fluoric acids.*—Mrs. —, æt. 26, consulted me in the summer of 1853. This lady belonged to a healthy family, but had laboured under cough for several months, accompanied with expectoration, which was occasionally streaked with blood. She had been troubled with night perspirations; her appetite was deficient, and she had lost flesh. She also complained of a tickling sensation in the windpipe, which brought on frequent coughing. Percussion elicited a dull sound at the upper part of the right lung, posteriorly, where the respiratory murmur was marked with moist rattles. After two months' treatment with naphtha and bisulphuret of carbon, and local

treatment to the larynx, she considerably improved; the dull sound diminished, and the respiratory murmur could be heard, although of a harsh character, over the above region. At this period she left London for Edinburgh, and consulted Dr. Bennett, under whose care she took cod-liver oil until January, when she returned to London. Dr. Bennett wrote to me upon her case at the time, stating that there was no doubt tubercular disease existed in the upper part of the right lung. I did not, however, see the patient until Feb. 1st, when I was hurriedly summoned in consequence of an attack of hæmoptysis, and saw her, in consultation with Mr. Merriman, of Kensington. Upon examining the chest, there were found unequivocal signs of a cavity over the right supra-scapular region; a sub-crepitating râle was heard below the right clavicle; pulse 96. Under the influence of sulphuric acid, combined with sedatives, and afterwards with quinine and small doses of the sulphate of magnesia, the hæmoptysis disappeared. Naphtha, combined with chlorate of potash and cod-liver oil, was employed until the 23d.

At first some improvement took place; eventually the pulse was quickened and the cough increased, and then half a grain of oxalic acid, with half a drachm of the syrup of poppies, was ordered four times a day, and cod-liver oil. This plan was pursued, with a little increase of oxalic acid, with infusion of cascarrilla, until April 5th, with great advantage, the expectoration, however, undergoing no very considerable diminution. The cough was slight, and occurred only in the morning. The appetite was excellent, the nights good, and flesh and strength were rapidly gained. Percussion yielded a less dull sound over the region of the cavity, where the gurgling râle was replaced by a dry sound, and pectoriloquy could no longer be detected. As she had now taken the oxalic acid for a considerable time, and the expectoration did not decline much in quantity, the one twelfth of a drop of fluoric acid was administered four times a day. This occasioned loss of appetite, sickness, and headache, and was consequently abandoned after two days' use. In the course of a day or two, however, she was restored to her former condition, and the oxalic acid was recommenced.

April 20th.—The cough and expectoration had increased; slight gurgling was perceptible in the cavity, and an occasional darting pain was felt below the right clavicle. One forty-eighth part of a drop of fluoric acid was prescribed four times a day.

27th.—The expectoration had considerably diminished; the cough was slight, and no moist râles could be detected in the cavity.

May 25th.—After a fortnight's use of the fluoric acid, the oxalic was again had recourse to; and in this manner the treatment was continued, with one or other of the acids, combined with the occasional use of cod-liver oil, with great benefit, until the latter end of August, when she went into the country, and there had another attack of hæmoptysis. She returned to town in September, and, since that period, has continued the use of these acids, as well as gallic acid, the latter being employed in consequence of a streak of blood being seen in the expectoration.

Up to the present time (Nov. 23d), no cod-liver oil has been taken since her return from the country. The pulmonary symptoms are now better than they have been at any time since she has been under my care; and, although she cannot be said to be free from disease, she is an instance of the advantage derived from the alternate use of these two acids.

CASE 2.—*Cavity in the left Lung, treated with oxalic and fluoric acids.*—I was summoned, on April 6th, 1854, by Mr. Dixon, of Witham, Essex, to visit a gentleman labouring under phthisis, in his neighbourhood, who was too ill to take the journey to London, having, in fact, been confined to his

bed for some time. I saw the patient on the following day, with Mr. Proctor, Mr. Dixon's partner. He had manifested symptoms of the disease for a considerable time, and, in addition to the cough, expectoration, and night perspirations, had had several attacks of hæmoptysis. He had derived benefit from cod-liver oil, which, however, often disagreed with him. Upon examination, the chest was found deficient in expansion over the upper part of the left side, where dulness was evident on percussion, and where a gurgling râle was also heard. The lung on the right side was not altogether healthy. His appetite was deficient, and he had become much weaker and emaciated of late. Half a grain of oxalic acid was prescribed three times a day. I heard, in the course of the summer, both from Mr. Dixon and Mr. Proctor, that the medicine had been of considerable use to the patient, who had sufficiently recovered to pursue his usual avocations; and that the only alteration they had made in the treatment was to augment the dose of the acid to a grain three times a day.

On Oct. 18th, the patient came to London and paid me a visit. He then appeared to be, as, indeed, he stated he was, very much better than when I saw him in April; and although the cavity existed in the left lung, the disease was in a much less active state than I found it in the spring. He informed me that he took the medicine uninterruptedly for several months with marked benefit, until it seemed to tighten the cough, when it was discontinued, and cod-liver oil again had recourse to; but as this gave rise to sickness and loss of appetite, it was withdrawn, and for the last few weeks the patient had not taken any medicine, and in consequence of the cough and expectoration having increased during the last few days, he had come to town to consult me. I then ordered the forty-eighth part of a drop of fluoric acid three times a day; since which period I have not seen him.

December 5th.—He came to town this morning, and paid me another visit. His cough and expectoration were less than they had been for many months, his appetite was good, and he had gained strength. The only change in the physical signs was that the cavity had become dry. The fluoric acid was ordered to be continued.

CASE 3.—*Extensive cavity in the left Lung; useful effects of oxalic and fluoric acids.*—Mr. F——, æt. 31, took cold in the summer of 1851. This was followed by a troublesome cough; and, in the autumn of the same year, by a severe attack of hæmoptysis. The expectoration soon became considerable, the breathing difficult, and the night perspirations excessive. He first consulted me on August 10th, 1852, when, in addition to the foregoing symptoms, the circulation was hurried, the appetite bad, he was unable to lie on his left side, and had wasted considerably. Upon inspecting the chest, depressions were observed below the left clavicle; over this region expansion was deficient, percussion yielded a dull sound, and an extensive gurgling râle was heard over the same space. For eighteen months, the treatment comprised naphtha, bisulphuret of carbon, and cod-liver oil; and during this period, although there were times when he lost ground, upon the whole his health underwent a sensible improvement.

Feb. 28th, 1854.—As he had not been so well of late, half a grain of oxalic acid, with a little syrup of poppies, was prescribed three times a day.

On May 2d, he informed me that he had continued the medicine up to that day, and had been so much relieved, that he expected soon to have been able to report himself well; but during the last few days the cough had become harder, and the expectoration more difficult to bring up. I then ordered him one twenty-fourth part of a drop of fluoric acid, in a mixture, with a little syrup of poppies, three times a day.

On June 27th, he stated that, since his last visit, he had lost his cough for a month; but, for the last two or three weeks, it had troubled him again. Upon examination I found the cavity dry; and it appeared to me to occupy less space than formerly.

Nov. 16th.—The acid treatment was continued up to this time with considerable advantage, sometimes combined with cod-liver oil; but the latter was not regularly taken, intervals of a month's duration occasionally occurring, when more was administered.

Although the condition of this patient's lungs was, and, notwithstanding the improvement they have undergone, still is, such as to render his chance of complete and permanent recovery not very probable; still I think no unprejudiced person can read the details of this case without coming to the conclusion that in this instance, the good effects both of the oxalic and fluoric acids were plainly manifest.

ART. 32.—*Case illustrating the influence of locality upon Asthma.*
By M. TROUSSEAU.

(Gaz. des Hôpitaux, No. 34, 1853.)

In a clinical lecture reported in this journal, M. Trousseau mentions the following remarkable case, as illustrating the strange influence of locality upon asthma.

CASE.—A young man, æt. 28, a native of St. Omer, was subject to repeated attacks of asthma while resident there. He went to London, and resided in *the City* for two years, and for the whole of this time he was free from his malady. He afterwards returned to his native town, and in four days was as bad as ever. After bearing his troubles for three months, he went to Paris to consult M. Trousseau, and in a short time was well. At this time he made a summer trip to Versailles, and there he was immediately attacked by his old enemy. He returned to Paris, and for six months continued free. After this, being obliged to return to St. Omer, he was again attacked so violently as to be thought to be dying. By Trousseau's advice, however, he was carried on a hand-barrow to the railway-station, and brought again to Paris, where his sufferings once more terminated.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 33.—*Case of Leucocythemia.* By Dr. JAMES WALLACE.

(Glasgow Medical Journal, April, 1855.)

The following well-told case forms a valuable addition to the scanty literature of this obscure disorder. Dr. Wallace writes:

CASE.—On the 27th of March, 1852, Ellen Danahy, a mill-worker, presented herself for advice and treatment at the Dispensary of the Greenock Infirmary, where I obtained from her the following particulars: About two years previously, she received a kick on the left lumbar region, in which she had severe pain for six days; but she remained in a fair state of health for twelve months afterwards. She then, however, began to emaciate, and observed a swelling about midway between the floating ribs and Poupart's ligament on the left side. This has since been gradually increasing, and,

within the last two months, been attended with occasional lancinating pain, aggravated on coughing or pressure. Seven months ago she had an attack of acute dysentery, which has returned within the last eight days. She has resided in Greenock for the last seven years, but is a native of Derry. She is now thirty years of age, and has been a widow for two years. She has had no children, but menstruated regularly till May last, since which, however, the catamenia have been entirely absent. She has never had any fever of the intermittent type, nor been in any ague district. At present she is very anæmic, the sclerotics having a peculiar pearly appearance, and the diathesis being evidently strumous.

She now complains of looseness of the bowels, attended with tormina and tenesmus (the dejecta containing slime and blood), and has pain, increased on pressure, in the epigastrium and right hypochondrium. A large swelling occupies the left side of the abdomen. Its anterior and inferior borders can be accurately felt, the former being a little to the left of, and parallel with, the linea alba, and the latter midway between the umbilicus and Poupart's ligament. It is smooth on the surface and along the margins (except at the antero-inferior angle, where it is deeply notched), and can be moved upwards, as well as from side to side. The patient complains of a dull pain, increased on pressure, throughout the whole of the tumour, particularly in its antero-inferior angle, the pain besides being occasionally lancinating. There is some fulness in the right hypochondrium, the hepatic dulness being appreciable as far down as the umbilicus, but the margin of the liver cannot be made out. The rest of the abdomen is rather tympanitic; lungs clear; heart's sounds and impulse natural. *No enlargement of lymphatic glands.* Pulse 92, soft.

Having already had under my observation a case of leucocythemia, in connection with hypertrophy of the spleen, which Professor Bennett has reported in his work on the subject, I naturally suspected that this patient might afford an instance of that pathological condition. To ascertain this, I drew from a vein about half an ounce of blood, and found that, about five minutes after abstraction, a creamy-looking substance floated to the top, but was again easily diffused by slight agitation. After standing for twenty-four hours, the serum, which appeared to be normal, separated from the crassamentum, which was firm and thick, and composed of two portions, an upper and a lower, the latter being of the ordinary hue and the former of a cream colour, and about one third of the thickness of the whole clot. Under the microscope, the white clot was seen to be made up of large, white, faintly granular cells, immersed in fibrine, and displaying, on the addition of acetic acid, one, two, or three nuclei with nucleoli. These were also scattered through the red portion of the clot, and bore to the coloured discs a proportion of about one to ten.

The nature of the case having thus been established, I was extremely anxious that Danahy should become an in-patient of the infirmary. She was averse to this, however, and I had no alternative but to treat her in the out-department. Accordingly, after examining her urine, which presented nothing abnormal, I ordered her to be leeches on the epigastrium and right hypochondrium, and to take, every four hours, five grains of Dover's powder. This was followed, in five days, by chalk mixture with catechu and laudanum, under which, in a short time, the dysentery entirely abated. She was then put on the saccharine carbonate of iron, alternated with cod-liver oil three times a day, and desired to rub in iodine ointment over the tumour; but under this treatment she made no improvement, the report taken on the 30th of June being as follows: "Cannot take the cod-liver oil. For the last three weeks the legs have been œdematous and the face puffy, the urine being scanty,

but otherwise normal. The tumour in the left side of the abdomen has somewhat increased, but is free from pain. There is still, however, some pain in the epigastrium. No fulness of the liver is perceptible, probably from the bulging on the left side of the abdomen. Feeling of fluctuation indistinct. Emaciation advancing. *Glands of neck enlarging.* Appetite weak; bowels regular; pulse 92. To have five grains of the citrate of iron and quinine three times a day."

At this stage of the case I again abstracted a small quantity of blood, and sent a specimen of it to Dr. Robertson, of Edinburgh, who was kind enough, at the request of Professor Bennett, to analyse it for me, the results being as follows :

Specific gravity of blood . . .	1.044	
Specific gravity of serum . . .	1.025	
Fibrine	1.5	
Serous solids	70.	{ organic . 64.4
		{ inorganic . 5.6
Globules	79.	
<hr/>		
Total solids	150.5	
Water	849.5	
<hr/>		
	1000.	

At the same time I again made a careful examination of the ordinary as well as the microscopical appearances presented by the blood. Complete separation of the serum took place in eight hours. It seemed normal as to quantity, but was rather turbid. The crassamentum was not so distinctly divided as formerly into two portions, a considerable number of whitish streaks running through the coloured part (which was of a dirty purple), in addition to a thin creamy-looking stratum, which lay on the upper surface, and was about one fourth of the thickness of the whole clot. The white cells did not appear to have increased in quantity, but there was in addition a few free nuclei. Those of the perfect cells were clearly defined by the addition of acetic acid, and were single, double, tripartite, or quadruple; some, besides, being curved and irregular, and all rendered of a yellowish colour by the reagent.

After this the œdema of the legs increased, and the abdomen became so distended with fluid as to cause considerable oppression in breathing, for the relief of which the patient was at last prevailed on to come into the hospital, where, on the 21st of July, she was placed under the care of my colleague, Dr. Fox. The treatment now consisted of hydragogue cathartics and diuretics, which were continued till the 6th of August, when pleuro-pneumonia supervened, the termination of the case being reported as follows in the journal of the ward :

"August 6th.—Yesterday patient was in a pyrexial condition, and was suddenly seized to-day with a sharp pain in the right side of chest. The pain is augmented on taking a long breath, and by pressure. Decubitus on the left side. Percussion of right lateral region dull, a distinct friction sound being audible in that situation. *Cupping to six ounces. Calomel and opium every four hours.*

"7th.—Pain in side relieved. Friction sound still distinct.

"8th.—Pain gone, but dulness exists on left side of chest. Dyspnœa great. Clammy sweats. Pulse small and rapid. *Half an ounce of gin every hour.*

"9th.—Became delirious last night, and died this morning."

The body was inspected two days after death, when, with the assistance of Mr. Gemmil, the house-surgeon, I made a note of the following particulars: The left pleural cavity contained thirteen ounces of turbid serum, the lower lobe of the left lung being in the stage of the grey hepatization, and invested with a thin layer of recently effused lymph, which also covered the diaphragmatic portion of the pleura. The right pleural cavity contained about two ounces of turbid serum, and the lower lobe of the right lung was in the stage of the red hepatization, a few patches of fresh lymph being attached here and there to the lower portion of its investing membrane. The pericardium contained seven and a half ounces of clear serum. The heart was normal, the left cavities being empty, and the right filled with very soft cream-coloured fibrine, which, in the *venæ innominatæ*, gradually merged into the red clot. The abdomen contained fifty ounces of clear serum. Old adhesions existed between the abdominal wall and the portion of the peritoneum covering the upper third of the spleen. This organ was very much enlarged, and occupied the left side of the abdomen, as indicated by the signs observed during life, a deep notch existing at the lower portion of its anterior border. It measured thirteen inches in length, eight in breadth, and five in thickness, and weighed six pounds three ounces avoirdupois. The liver was also considerably enlarged, and rather pale in colour, its weight being six pounds seven ounces. The cortical portion of the right kidney was rather vascular. The intestines were pale, and the glands of the mesentery, as well as those of the neck, groin, &c., were considerably enlarged. The other organs were healthy.

Microscopical examination.—The blood from the inferior vena cava and the *venæ innominatæ* was of a dirty purplish hue, and contained some soft cream-coloured clots, which exhibited the white cells (some of which were larger than others) entangled in great numbers, with a few free nuclei, in molecular fibrine, and having nuclei of various forms, similar to those observed in the blood abstracted on the 30th June, but not becoming yellow on the addition of acetic acid. The proportion of white to coloured cells, in blood taken from different parts of the body, was about the same as that first noted, except in that from the splenic vein, in which there was a decided increase. In all the specimens of blood examined, there was seen a considerable number of small rhomboidal crystals of a yellowish colour, and soluble in acetic acid.*

The pulp of the spleen exhibited, in addition to a few fusiform cells, and an abundance of coloured discs, an immense number of small, round, delicately granular cells (the *splenic* cells), a considerable quantity of the *white* cells, and a few large *oval* cells, filled evidently with nuclei of the latter. The trabeculæ, in a section made by a Valentine's knife, were observed to be distinct, but no Malpighian bodies were visible. The lymphatic glands were soft, and yielded on section a turbid juice, which presented, in great abundance, oil globules, granules, free nuclei, and small delicate granular cells, with nuclei very indistinct, but more apparent on the addition of acetic acid. A small portion of the liver, squeezed between glasses, showed the hepatic cells with an indistinct outline, and loaded with oil globules.

* These were evidently a species of that class of crystals called *Hæmatoid*, to which attention has recently been directed by Virchow, and other observers.

ART. 34.—*Notes on the administration of Gallic Acid in Hemorrhages, &c.* By Dr. GAIRDNER, Physician to the Royal Infirmary at Edinburgh.

(*Assoc. Med. Journal*, Feb. 23, 1855.)

Dr. Gairdner has recently read a paper, before the Medico-Chirurgical Society of Edinburgh, in which he professes himself to be sceptical as to the reputed powers of gallic acid in hæmoptysis, &c. He has tried the drug, he tells us, in large doses, not only in hæmoptysis, in the sweating of phthisis, in diarrhœa, and in albuminuria, and he relates some of the cases, but he cannot satisfy himself that the drug was unequivocally beneficial. What he thinks will appear in the following quotation:

"On the whole, if we admit that gallic acid possesses some of the astringent power of its congener, *tannin*, I believe we must regard it as one of the weakest of all the remedies of this class. The same negative attribute which secures its admission to the general circulation (the absence of the power to coagulate gelatin) unfits it for the office of a local astringent, and as a general remedy its physiological properties appear to be of the feeblest possible order. Nothing has struck me so much in the course of these experiments as the contrast between the actual results of gallic acid given in very large doses, and those effects attributed to it when given in very small daily amount. Thus one observer recommends it in the strongest manner as being, in one or two doses of two grains each, an almost infallible antidote to the premonitory diarrhœa of cholera. Another gives it in doses of from three to five grains against uterine hæmorrhage. Numerous observers employ it in nearly the same doses in desperate cases of hæmoptysis. Dr. Bayes correctly takes his stand against the idea generally current, that gallic acid has a tendency to produce febrile excitement. He ascribes to it, however, as a physiological action coincident with its therapeutical effects in hæmoptysis, "a feeling of constriction in the forehead and eyes, with a buzzing sound in the ears and head." These effects, I am inclined to ascribe to the disease rather than to its remedy. They are familiar to almost every one as the reaction after loss of blood; and under no circumstances are they more apt to present themselves than after tolerably profuse hæmoptysis. I can truly say that I have now observed many persons under the influence of from one to two drachms daily of gallic acid for weeks together without seeing any reason to ascribe to this substance the power of producing any such marked physiological effect. I have repeatedly questioned persons under the full influence of the drug, with the express view of ascertaining any unusual sensations; but except a little feeling of dryness in the throat (not constant), and possibly slight constipation, have altogether failed in procuring any distinct testimony on the subject. In one man, indeed, an impetiginous, or herpetic, eruption on the chin and lips was developed under the remedy; but this same man took it for weeks before, and has taken it for weeks since, without any renewal of these symptoms; and I never noticed a similar result in any other case. Dr. Inglis has repeatedly attempted in this man, by means of bibulous paper im-

pregnated with iron, to procure evidence of the elimination of gallic acid by the skin: the result, however, has hitherto been negative. In some instances, the tongue has appeared to be somewhat loaded while the remedy was taken; in others, it has remained quite clean, and the appetite unaffected. In one lady, a most susceptible and nervous person, extremely attentive to her own sensations, the catamenia were established as freely as usual under its influence in the large dose; nor was any complaint whatever made of the action of the remedy. I cannot, therefore, conclude these observations without indicating my belief that, in continuing to administer gallic acid on the principle, and in the way indicated by some of its advocates, we run some risk of substituting a very feeble, if not inert, remedial agent for other means more deserving of confidence."

ART. 35.—On Rheumatic Pericarditis. By Dr. EUTENBERG, of Coblenz.

(*Pr. Ver. Stg.*, 1854; and *Medical Times and Gazette*, Nov. 4, 1854.)

From experience collected by the author, the following conclusions are deduced. First, as to the symptomatology: most authors affirm that there is pain either confined to the region of the heart, or extending from the left side to the shoulder and the mesogastrium. Dr. Eutenberg found it in none of his cases; and he adds that Laennec, Hope, and Bouillaud, have all remarked upon its occasional absence: hence he infers that it is a sign of complication with pleurisy or pneumonia. At a later period, when abundant exudation is poured forth, a heavy pain is experienced.

Severe feverish symptoms occur only in the very acute cases. Then the thirst is oppressive; but the power of drinking limited on account of the severe dyspnoea. The urine is mostly very red, with a sediment of phosphate of ammonia and uric acid. There are severe night sweats, especially about the head.

At the commencement there is a marked sense of oppression, which becomes worse with the increase of the exudation.

The position of the patient is characteristic, whether the pericarditis be acute or chronic. He avoids lying on the left side. The recumbent posture on the back, or, if there be pleurisy, the sitting posture are most convenient. There is generally cough, at first of catarrhal character. Sickness, as mentioned by Knox, Kreysis, and Bouillaud, Dr. Eutenberg found only once in eight cases. The pulse is very quick, 140—200. The sounds of the heart are mostly clear and defined; but a peculiar fluttering movement accompanies the heart's beat, when the exudation is excessive, and interferes with its action. Hope remarked this in connexion with carditis. The pulse is always small, but not intermitting. Respiration is hurried, but without remission. There is no sign of adhesion of the pericardium to the heart. The author found it twice in bodies where he could not diagnose it during life.

The author did not find Rokitansky's assertion confirmed, that in the neighbourhood of an abscess of the heart the muscular substance is infiltrated with pus, easily lacerated and discoloured. The want of redness in the pericardium he found remarkable.

The treatment must depend upon the form of disease. In acute

cases, attacking muscular subjects, a moderate venesection is recommended; but not its repetition, as Bouillaud has advised. In carditis no bleeding, and in endo-carditis very moderate abstraction of blood is recommended. The author makes chief mention among internal medicines of tartarized antimony, combined with sulphate of magnesia, or calomel in severe cases. Should the pulsations of the heart and shortness of breath be considerable, and combined with hurried pulse, Dr. Eutenberg gives Corros. Sublimat., gr. j, dissolved in Sp. Vin. Rectif., ʒiij. Three to five drops to be taken twice daily. Next to corrosive sublimate stand the preparations of gold, but they are less fit for acute cases. In chronic relapsing pericarditis the iodide of iron is recommended.

ART. 36.—*Cases of Paracentesis of the Pericardium.*

By (1) M. BEHRIER, and (2) MM. TROUSSEAU and LASEGNE.

1. (*Rév. Méd. Chir. de Paris*, Aug., 1854.)

2. (*Archiv. Générales de Méd.*, Nov., 1854.)

We have to record two new cases of this rare operation. That of M. Behrier is related without any comment. That of MM. Trousseau and Lasegne is made the text of an essay upon the subject, in which the former case and six others are related. In this essay certain conclusions are arrived at, of which the principal are, that the operation is much less formidable than it is believed to be, as well as much more simple. Indeed, the trepan is not required, and all that is necessary is to puncture the interspace between the third and fourth rib with a common trochar, and then leave the liquid to escape spontaneously, which it does very slowly.

1. *M. Behrier's case.*—Eugenie Viel, æt. 22, admitted to the hospital on 30th January. For the last three years she has had a pleuritic attack each winter. She complains of considerable dyspnoea; respiration frequent, difficult, and interrupted by cough; voice very feeble. Has had a gradually increasing sense of oppression about the chest, which commenced with rigors, followed by feverishness. Left side of chest dull on percussion, both anteriorly and posteriorly; respiratory sounds inaudible in it, with the exception of some sonorous râles at the apex. Right side everywhere resonant; mucous râles audible over whole lung. Expectoration purulent; pulse 106, small, irregular and intermitting. Impulse of heart tumultuous; organ displaced to right side; apex beats beneath sternum; cardiac sounds loudest at right margin of this bone. Blisters to be applied to the chest, anteriorly and posteriorly; and to take expectorant mixtures.

Feb. 2d.—Respiration more difficult; extreme anxiety; pulse very frequent, irregular, and thready. M. Behrier resolved on thoracentesis, and having placed the patient in the supine posture, supported by pillows, he introduced a trocar (having a bag of gold-beaters' skin attached to the canula) between the seventh and eighth ribs, at a place which would be crossed by a vertical line drawn from the external border of the nipple. No fluid escaped, but the entrance of the trocar seemed arrested by a hard resisting tissue. There was no bleeding save from the external wound. A second puncture was made higher up, and more in front, in the sixth intercostal space, immediately below the nipple. The instrument was inserted obliquely inwards and back-

wards, and the stilette having been withdrawn, a serous fluid, slightly tinged with blood, flowed slowly through the canula, until about 300 grammes had escaped. The canula, while *in situ*, was observed to oscillate synchronously with the systolic movements of the heart, and the hand, when placed upon it, could distinctly feel the cardiac impulse. The canula having been withdrawn, the external wound was closed by means of adhesive plaster. The operation relieved the patient; and the breathing became much easier after it.

3d.—Vesicular murmur audible in left lung, before and behind. Heart has resumed its normal position; pulse 104; inspirations 26; no pain or local inflammation. Ordered a laxative.

4th.—Rested ill last night; considerable oppression; heart still in normal site; pulse 102.

Shortly after this, bronchitis supervened, but it was arrested, and on the 22d the patient was pretty well. On the 25th the uneasiness returned; subcrepitant râles were heard, and the sputa became pneumonic. She died on the 28th.

Post-mortem.—Right pleura contained reddish serum. Left also contained serous effusion, and exhibited traces of old adhesions. The pericardium contained 100 grammes of yellowish transparent serum. It was so firmly adherent, by false membranes, to the pleuræ, that the place of puncture could not be discovered, although it was very carefully examined. On the first occasion the trocar had penetrated the false membranes.

2. *MM. Trousseau and Lasagne's case*.—Pelletier, æt. 16, was admitted into the Hôtel Dieu on the 2d February, 1854. He had been suffering for five days with severe frontal headache, lassitude, and præcardiac pain. The dyspnœa was extreme, the pulse very quick, the cough trifling. There was prominence in the cardiac region, with increased dulness on percussion at the same point, extending to the second rib and to the right of the sternum; the heart's sounds were feeble and distant. The patient appeared to have never suffered from rheumatism. For a month the effusion continued the same; only once for two days did it seem to diminish, and then there was a little friction at its base. Afterwards, the dyspnœa increased, and the dulness on percussion extended until it reached the clavicle. There was also pleuritic effusion. Matters growing worse and worse, paracentesis was performed on the 18th of March, by M. Jobert (de Lamballe). This was done by an incision in the fifth intercostal space, one and a quarter inch from the sternum. Thirteen ounces of fluid escaped slowly. After this, the cardiac distress was found to be greatly diminished, and respiratory sounds could be heard as low as the fourth rib. A day or two later, the effusion in the pleura was found to have increased, and the heart was displaced to the right. Under these circumstances, paracentesis thoracis was performed in the sixth space in the intercostal line, and sixteen ounces of fluid were removed. Neither pericardiac nor pleural effusion reappeared, but symptoms of phthisis made their appearance before he left the hospital, which he did at the beginning of June.

ART. 37.—*Notes of twenty-two cases of disease of the Heart among the Hindoos.* By Mr. HINDER.

(*Indian Annals of Medical Science*, Oct., 1854.)

These cases were observed at the Government Dispensary, Umritzur. They are carefully recorded in a series of tables, and the results, which are quite in accordance with the experience of Western countries, are these:

A. Acute Inflammation.

Recent inflammation of the endocardium, or of the muscular structure, was not observed in a single instance.

There were three cases of acute pericarditis, all terminated fatally, and were examined after death; the notes of two were published in the last number of this journal. The history of the third case is very obscure, the patient having died very suddenly on the third day after admission.

On examination, extensive disease of the pericardium was observed, in front it was loosely attached to the heart by recent adhesions of soft lymph, laterally the attachments were closer. On laying the pericardium open behind, about six ounces of pure pus gushed out; the walls of the abscess were formed by the visceral and parietal portions of the membrane, which were here greatly thickened.

The walls of the ventricles appeared to be thinner than natural, an old deposit was noticed near the free edge of the mitral valves. No other abnormal appearances were observed in the organ.

The liver was greatly congested.

Rheumatism was associated with one of these cases. One patient was 20 years of age, not the case of rheumatic pericarditis—the other two men, 35 years each.

B. Chronic changes in the Valves, &c.

In all the other cases, with the exception of the 21st, there was evidence of disease of one or more of the valves of the heart.

Five of the nineteen cases in which chronic disease existed, or more than one fourth, could be traced to rheumatism as a pathological cause, the patients having, as usual, been attacked long before they came under treatment, at periods varying from five months to ten years. In most of the other cases the history was very obscure, and could not be depended on with any degree of confidence.

Age does not appear to have had much effect as a predisposing cause, except in the rheumatic cases. In the patients now under consideration, eight were under 30 years of age, and only three, or somewhat less than one sixth, under 20.

Of the five rheumatic patients, three were under 20 years of age, and the remaining two, 25 each; this is satisfactory, for all experience in Europe proves that "rheumatic pericarditis is peculiarly a disease of youth."

The particular orifices affected were as follows, viz.:

	Cases.
1. Aortic constriction	2
2. Mitral regurgitation	7
3. Mitral regurgitation and aortic constriction	2
4. Mitral and tricuspid regurgitation	3
5. Tricuspid regurgitation	2
6. Seat of disease uncertain	2

These conclusions cannot be altogether depended on, as the evidence is founded chiefly on the physical signs; it is clear, however, from the table, that the mitral valves are individually the most liable to disease.

Remains of former pericarditis existed in one case, in which the bag of the pericardium was completely obliterated by universal adhesion of the parietal to the visceral layer. And although the aortic valves were also slightly diseased, and the lungs emphysematous, the heart was neither dilated nor hypertrophied; on the contrary it was decidedly smaller than natural; both kidneys were affected with fatty degeneration, this lesion inducing the fatal termination of the case. It may further be remarked, that the kidneys were not diseased in the other cases examined after death.

ART. 38.—*Case of enlargement of the Thyroid Gland and Eyeballs concurrent with palpitation.* By Dr. BEGBIE, President of the College of Physicians of Edinburgh.

(*Edin. Medical and Surgical Journal*, April, 1855.)

“This case presents a well-marked example of the disease first described by Dr. Graves of Dublin, and afterwards noticed by Sir Henry Marsh, Dr. Stokes, and other Irish physicians; and whose true pathological character was, I believe, first pointed out by me in a paper read to the Medico-Chirurgical Society of Edinburgh in January, 1849, and subsequently published in the ‘*Monthly Journal of Medical Science*.’ The affection has since been illustrated by Romberg and Hensch, and other German physicians, and has attracted the notice of some of our best writers on diseases of the eye. The history is interesting, as having occurred in a male, the cases on record, with few exceptions, having been seen in females. It is more particularly interesting, as affording an opportunity of examining the morbid appearances after death, the only record of which that has yet appeared being that communicated to the Pathological Society of Dublin by Sir H. Marsh, and by Basedow in Germany. In the case now related, as well as in that of a lady who had long laboured under this peculiar affection, and in whom it proved fatal also, by supervening pneumonia (the only instances which have occurred to myself of instituting *post-mortem* examinations), there exists a remarkable similarity in the chief morbid appearances with those described by Sir H. Marsh. These appearances chiefly consist in the very fluid state of the blood found in the heart and great vessels, in the dilatation of the cavities of the heart, and of the venous trunks, in the enlargement of the spleen and disease of the liver, and in serous effusion into the different cavities, the result of vascular obstruction.

“Since the publication of the three cases related by me in 1849, I have, through the kindness of my professional brethren, seen many additional examples of this affection, a large proportion of which have gradually undergone a cure, while the remainder have benefited, or are now benefiting, by the use of iron, animal food, and fresh air. It is of great consequence to impress those suffering from this affection

with the belief of its curable nature, and to urge upon them the persistent employment of the means of restoring the red particles of the impoverished blood, and improving the general health; for we have now examples before us to show that the neglect of these rules must lead, from functional disorder of the heart, to dilatation of its cavities, and to the usual train of consequences resulting from such a morbid change.

“The more extended our experience of the phenomena constituting this peculiar affection becomes, the more convinced shall we be that the point of departure from health is not in the heart itself, but in the impoverished condition of the blood, which, after a time, affects the heart and vessels functionally, and, by long continuance, involves them ultimately in fatal organic change.”

J. K., æt. 32, by occupation a gentleman's servant, many years ago had a fall from horseback, by which he sustained a severe wound on the occiput, from which a profuse and continued hemorrhage took place. He has never been quite well since that occurrence. In the beginning of 1845 he suffered from bilious fever, and made a slow and imperfect recovery. In August, 1851, had an attack of jaundice, which continued more or less for a whole year; and during its progress the symptoms which first attracted attention in connection with the present history developed themselves. For more than a twelve-month he has been subject to palpitation, breathlessness, and giddiness. These symptoms were soon followed by enlargement of the thyroid gland, and by increased prominence and distension of the eyeballs, so as to give him a remarkable appearance of staring, which was noticed by all his friends.

In the spring of 1853 he first came under my observation. He was a man of middle size, and well formed. His countenance was pallid and sickly; but under excitement, either mental or bodily, his face quickly flushed, and his manner became nervous and embarrassed. At all times, but especially under excitement, the action of the heart was forcible and rapid, and this action was communicated to the vessels of the neck and head. The eyeballs were enlarged and prominent, presenting the appearance of great distension. The thyroid gland was also much enlarged throughout its whole body, varying in size according to the force of the heart's action. This enlargement was accompanied by a strong pulsation over the tumour, and in the vessels of the neck; and a peculiar thrill was felt, and a loud murmur heard, over the whole extent of the gland. The action of the heart was violent and jerking; and a loud bellows murmur attended the first sound, and was heard most distinctly over the region of the aortic valves. In a state of quiet and rest these symptoms became moderated, and the patient was able to continue his domestic service, in the enjoyment of comparative health. He was directed to take persistently for months the milder preparations of iron, and to use a diet chiefly of animal food. Under this plan he improved in health, and all his more urgent symptoms subsided by degrees. In the autumn of 1853, he went to England, and continued, I understand, to improve in health; but I lost sight of him at this time. Early in the spring of 1854, he had engaged to accompany a distinguished officer to the Crimea, as his body-servant. Before the time arrived, however, when he was to have entered on his duties, he was, after exposure to cold and fatigue, seized with inflammation of the chest, and obliged to relinquish the undertaking. His illness was severe and continued, and he never recovered from it. It appears to have aggravated greatly the peculiar symptoms under which he had so long laboured, and complicated the aspect of his case. He was able to return to Scotland, however, and in

March, 1854, he again, after an interval of several months, came under my notice. At this time he had enlargement of the liver, with jaundice, and the signs of organic disease of the heart, accompanied with general dropsy. His eyes were still prominent, and the thyroid gland enlarged, but neither of these now maintained the striking character which they possessed previously to his leaving Scotland. No remedy was of any avail, and he sank on the 28th of March, worn out with the sufferings of complicated disease in the thorax and abdomen. The body was opened on the 30th by Mr. Johnston, in presence of Drs. W. T. Gairdner and Warburton Begbie, and myself.

Sectio Cadaveris—March 30th, 4 p.m.—Body of a moderately stout and middle-sized man. The linens in which the body was shrouded were in many parts (as the neck, axilla, scrotum, and legs), quite soaked with serous fluid exuded from the body. The cutis was in many parts loose and easily detached from the *cutis vera*, and in every organ of the body examined, signs of decomposition were generally met with—frequently so marked as to obscure the proper pathological conditions.

The subcutaneous tissue, and, indeed, the cellular tissue generally, contained very little fat, and was in every part more or less infiltrated with serum.

On opening the thorax, the *pericardium* was found of large size, and overlapped, at its sides only, by the margins of the lungs. It contained about *six ounces* of a transparent yellow-coloured fluid. Upon the anterior surface of the heart—near to its base—a “milky spot” was observed, about the size of a florin-piece, and another upon the opposite surface of the pericardium.

All the cavities of the *heart* were filled with dark-coloured blood in a more than usually fluid condition; one well-formed decolorized clot was found in the right ventricle. The heart was large (might have weighed 16 oz.), soft and flaccid. All its chambers, but more especially the *ventricles*, were considerably dilated; the tricuspid orifice admitted *four* fingers, the mitral *three*. The tricuspid and mitral valves were large, but otherwise normal; the sigmoid valves were also normal. The *vena cava* inferior was unusually large; and the aorta was small when compared with the size of the pulmonary artery. The endocardium and inner surface of the aorta were stained of a deep-red colour.

Both pleurae contained turbid fluid of a dark-red colour, computed at about eight or ten ounces in each. The posterior surface of the upper lobe of the *right* lung was firmly adherent to the costal pleura by strong short bands of lymph. The lower lobe of this lung was crepitant, and infiltrated with bloody serum; the posterior part of the upper lobe was condensed, non-crepitant, and friable as if hepatized, but the advanced state of decomposition in which it was, prevented a decided opinion being formed concerning it. The left lung was crepitant, with the exception of its posterior part; and from the surface of a section a considerable quantity of bloody serosity was readily expressed.

The sterno-hyoid and sterno-thyroid muscles were much thinner and broader than natural from being stretched over the thyroid body, which was of large size. The external jugular veins were normal; the internal jugulars were large—the left one when slit open measured an inch and a half across at a level with the cricoid cartilage. The thyroid body was of large size, but was not weighed; its weight may, however, be computed at being four or five times greater than natural. Each lateral lobe measured an inch and a half in breadth, and was of a corresponding thickness. This great increase in size was not partial but general, and although the *isthmus* was comparatively larger than the lateral lobes, there was complete symmetry of both sides. It

was of a dusky-red colour, smooth, and well defined, and slightly irregular on its anterior surface, but still retained the natural convex and semi-lunar form of the organ when in a state of health.

The peritoneum contained about a pint and a half, or two pints, of a clear fluid, tinged of a bright yellow. The *spleen* was enlarged in all its diameters, and was computed to weigh about twenty ounces. It was of very firm consistence, and on section presented the trabeculæ well marked, and also the Malpighian bodies, which were of an opaque yellowish-white appearance. The *kidneys* were both very large and very soft. The cortical was to the medullary substance, relatively, increased in amount, and the great size of both organs seemed to arise from this circumstance; otherwise their actual pathological condition could not be ascertained on account of the advanced state of decomposition which they were in. The *liver* was certainly not enlarged, perhaps rather small; its surface was somewhat irregular, slightly and superficially fissured at points; no rounded nodules, however (as of cirrhosis), could be observed. On section the tissue was (considering the decomposed state of all the organs) rather hard and dense, and seemed partially atrophied; its colour was deep orange, and in some places there was an approach to "nutmeg" congestion.

ART. 39.—*Diagnosis of Fibrinous Concretions in the Heart.*

By Dr. B. W. RICHARDSON.

(*Assoc. Med. Journal*, April 13, 1855.)

In former papers, Dr. Richardson has endeavoured to bring prominently forward the observations of some of the pathologists of the seventeenth and eighteenth centuries, who have regarded the formation of fibrinous concretions in the heart as a cause of death; and to combine with these observations such new information as modern science affords. It is now his object to speak of the diagnosis of fibrinous concretions in the heart. The formation of these concretions depends either on superfibrination of the blood, or on languidity of the circulation; and thus they are met with both in sthenic and asthenic conditions of the system. The general results are nearly the same in all cases; but the symptoms are modified in detail by the locality and size and mode of formation of the concretion. Where concretions are formed in the right side of the heart—their most usual situation—the general symptoms are those of arrest of the nutrition and general life of the body. The left side of the heart being imperfectly supplied, the arterial circulation is weakened; the pulse becomes small and intermittent; the surface, especially at the extremities, is cold; the veins are engorged; there is great anxiety; the muscles become restless and powerless; the brain refuses to act; the mind wanders; the pupil dilates; and the acts of excretion are often performed unconsciously. A distressing and peculiar form of dyspnoea also presents itself; it occurs not because the respiration is checked, for the respiratory murmur is audible enough, but because no blood is passing into the lungs to be oxidized. Towards the close of this condition, emphysema of the lungs is very frequently present, and the physical signs of this lesion are a valuable corroboration of the presence of fibrinous concretions. The laborious character of the respiration

depends on the deficiency in the supply of blood to the respiratory muscles and nervous centres. This description is applicable to cases in which death occurs in the course of forty-eight or seventy-two hours; but the symptoms are much varied by many causes. In some instances, death takes place almost instantaneously, in consequence of the sudden dislodgement of a previously formed concretion. In other instances, the concretion is not sufficient to entirely impede the circulation; here the symptoms are extended over several days, and exhaustion, and perhaps anasarca, present themselves. In a fourth class, the symptoms may extend over a long series of years, and at times may be in a great measure absent; death occurring at some time from their sudden reappearance.

Fibrinous concretions on the left side of the heart are generally found in the ventricle, and at the root and arch of the aorta. When gradually laid down, they are denoted by certain sufficiently obvious symptoms: 1. There is an unusual tumultuous action of the heart; which Dr. Richardson believes to be a decided indication, in cases of suspected fibrinous concretion, that the deposit is taking place on the *left* side. 2. The lungs present, probably invariably, signs of congestion. 3. The dyspnoea is less distressing than in the cases formerly described. 4. The surface of the body has a dark congested aspect. 5. The body is cold, and not only restless, but convulsed. 6. There is a tendency to coma. 7. Cough is almost always present, accompanied with copious secretion, often tinged with blood, in the bronchial tubes. When a favorable *point d'appui* is present, as in valvular disease, the concretion may seize on this, and suddenly arrest the circulation. In other cases, the concretion may undergo a gradual series of organic changes, and give rise to symptoms much resembling those of valvular obstruction—pulmonary lesions, dropsy, and in many cases hypertrophy. The symptoms of a concretion, whether in the right or in the left side, will be modified by the pre-existence of any organic lesion in the heart or vessels; as by feebleness at any one point of the walls of the heart; by valvular disease; and by dilatation of the heart or of the aorta.

Dr. Richardson has never been able to ascertain the presence of any physical sign absolutely diagnostic of fibrinous concretions. The wild tumultuous action of the heart, present when a concretion is formed in the left cavities, may be met with when there is no concretion. Very often, when the concretion is large, the only physical sign observed is, that the beat of the heart is weak and irregular, and its sound somewhat muffled. In other cases, where the concretion is small and hard, and firmly attached, a sound may be heard which cannot be, *per se*, distinguished from a valvular bruit. In forming the diagnosis of fibrinous concretion, the author trusts to the general outline and history of the symptoms; and with this view, in cases where concretion might be suspected, he inquires especially into the presence of hyperinosis of the blood, of any local inflammation, or of the absorption of a morbid poison; he also examines the general condition of the patient, and the state of the systemic circulation, and of the heart and lungs; and if in these he detects the special signs which he had already described, he regards concretions as being present. The

author has derived most instruction from the diagnosis of fibrinous concretions in the estimation of prognosis, and in withholding useless or injurious plans of treatment. In croup especially, the operation of tracheotomy should depend on the determination of the question whether there was a concretion in the heart or not.

ART. 40.—*A case of Cancer of the Pulmonary Artery.*

By Dr. A. WERNHER.

(*Henle's Zeitsch.*, 1855; and *Medico-Chir. Rev.*, April, 1855.)

This singular case consisted in primary cancer of an extremity and secondary cancer in the branches of the pulmonary artery; and all the facts seem to show that the cancer-cells passed as such from the primary growth through the medium of the venous blood, to the right side of the heart, and then into the pulmonary arteries. A general infection of the blood is negatived by the fact that nowhere, except in the direct track of the venous blood coming from the tumour, were cancerous masses found. In fact, an infection of the blood, a general cancerous disease, does not appear to have shown itself before the primary local manifestation in the tibia. Dr. Wernher argues against the hypothesis of a general cancerous disease, or cachexia, even preceding local disease; and urges that the cancer is in fact first a local one, like syphilis, and that the general cachexia is entirely secondary.

In the case now related, it would appear that after the removal of the tumour of the leg, the secondary cancer of the pulmonary artery grew very rapidly.

Dr. Wernher then compares the symptoms of his case with those of cancer of the lung given by Walshe, and finds a remarkable similarity, except that there was superadded gangrene, from the blocking up of the arteries.

A man, æt. 22, came under observation with a large and rapidly growing encephaloid tumour of the knee and tibia, for which amputation was recommended, but had not been performed, when, on January 27th, five days after the patient was first seen, he was attacked with sudden pain in the cardiac region, just to the left of the sternum, with dyspnœa and rapid respiration. Auscultation and percussion disclosed no signs. On the following day, the pain extended to the right side: there was no cough or expectoration, no cardiac palpitation, increase of precordial dulness or murmur. The pulse was 140. The following night, there were many severe attacks of dyspnœa, in which the pulse was scarcely to be felt. On the third day after the attack, some pure coagulated blood was coughed up; and on the following day, a smaller quantity of blood was expectorated. Two or three days subsequently, the dyspnœa diminished, and the patient passed nearly into the same state as before the attack.

All this time the tumour of the knee had been growing, and on the 7th February amputation was performed. It was found to be an exquisite specimen of encephaloid;—but we pass over its microscopic characters. On the following day, there was much fever; and on the 10th February, a return of hæmoptysis. The febrile symptoms continued, and there was increasing weakness till the 19th, when there was shivering, and dull percussion-note of

the bases of the lungs. On the 20th and the following days, very frequent cough, serous, bloody, offensive sputa, mucous râle all over the lungs, shivering, heat, miliaria. On the 24th, death occurred, with the symptoms of asphyxia and profound collapse.

On post-mortem examination, the iliac and crural veins and their branches were normal, not thickened, and without coagula; the vena cava was also perfectly healthy. The heart was healthy. The pulmonary arteries, on the other hand, contained coagula of coherent cancer-masses, forming fibres and strings of dull-white colour, like boiled rice, which strings were composed of many thinner ones closely pressed together. These masses filled almost all the branches of the right pulmonary artery; the left pulmonary artery contained also many, but was freer. The walls of the vessels were normal in most cases; in some these were incorporated with the contained cancer-masses. The smaller branches were dilated, from the pressure of the masses. The capillaries and the pulmonary veins were perfectly free. Under the microscope, the masses were found to be made up, almost throughout, of cells, exactly like primary cancer-cells, large, oval, with one or two nuclei. In the blood of the right heart, and of the vena cava ascendens, precisely similar cells were found. Nothing similar was found in any other blood.

Besides this, there were large gangrenous abscesses in the lungs; and it was noticed that the arteries leading to them were particularly obliterated by the cancer-masses, and that the vessels in their walls were in the same state.

(D) CONCERNING THE ALIMENTARY CANAL.

ART. 41.—*Effects of position in the treatment of certain Gastric and Enteric affections.* By Dr. COALE.

(*American Quarterly Journal of Med. Science*, Jan., 1855.)

At a meeting of the 'Boston Society for Medical Improvement,' Dr. Cole remarked, "that the late frequency of cholera morbus and other similar affections, had given him an opportunity of testing, to a considerable extent, the efficacy of a certain practice of his, based upon observation made some time since, but which he felt wanted confirmation before suggesting it generally. He is convinced, from actual experiment, that persons affected with irritability of the stomach are much less liable to vomit if they lie on the right side than when they recline in any other position—particularly on the left side. The explanation is evident. While lying on the right side, any contraction of the stomach need not much affect its solid contents; but, when lying on the left side, the contents are in the neighbourhood of the cardiac orifice, and any contraction of the organ will force them more or less through this opening into the œsophagus; thus, the difference between the two cases will be a simple eructation in the first, and vomiting in the second. This, Dr. C. has now tested in very many cases; and by many experiments in some of them, varying the position to the increase or diminution of the nausea and vomiting. It may be urged in objection to the explanation, that a contraction of the stomach that would force the contents through the cardiac orifice, would produce vomiting at any rate. But the difference is this: the same amount of contraction which, when the patient lies on the right side, throws off

gas merely, when he is on the other may force a small portion of solid or fluid matter into the œsophagus, when reflex action is at once excited, and the whole stomach stimulated into action.

“In treatment of cases of flatulence, and of what is commonly called ‘cramp colic,’ Dr. C. has found reclining on the right side beneficial. It lessens the vomiting—as first said—a frequent attendant in these cases; but, besides this, it gives a more ready escape to gas contained in the transverse colon. For example, suppose the trouble is a spasm, confining gas in the transverse or ascending colon, were the patient on the left side, and a relaxation of the spasm to occur, the gas is still kept behind the affected spot, for the distended intestine is not liable to take upon itself sufficient action to expel it. But, if the patient be on the right side, the gas then ascends and passes on to an unaffected part of the intestine, by which its escape is facilitated.”

ART. 42.—*Lactic Acid in Dyspepsia.* By Dr. C. HANDFIELD JONES, Assistant-Physician to St. Mary’s Hospital.

(*Assoc. Med. Journal*, July 14, 1854.)

Dr. C. Handfield Jones advises the use of lactic acid in dyspepsia. He has chiefly given it in cases of irritative dyspepsia, where the digestion was painful and imperfect, and had been so for some time; he does not advise its use at the commencement of the treatment in a severe case, but only after irritation and vascular erethysm is somewhat reduced. It should be employed in doses of fifteen to twenty minims, in a half-ounce of water, and taken *at* meal times; he states that it seems to mingle with the food, and to supply one of the constituents of healthy gastric juice, which is probably imperfectly produced. Its use need not be confined to cases of dyspepsia, but may be extended to all cases where it is desirable to improve the tone and power of the stomach. It is pleasant, occupies but little space, and the only objection to its use is its present high price; but if much employed, it could probably be obtained cheaply.

ART. 43.—*A new prognostic sign in Jaundice.*

By Dr. CATHCART LEES, Physician to the Meath Hospital.

(*Dublin Quarterly Journal of Medicine*, Nov., 1854.)

“Many cases of jaundice have occurred,” writes Dr. Lees, “in which delirium, convulsions, and coma supervened, and proved rapidly fatal, although accurate examination failed to discover any mechanical obstacle to the passage of bile out of the system, the bile ducts being pervious and empty; so that this form of disease has been described as fatal jaundice from *suppressed secretion* of bile, which means, that the jaundice in such cases depends on the retention in the blood of the elements of the bile, which in the healthy state is separated only, not formed at the liver, and which, when retained, acts on the nervous system nearly as a narcotic poison,—causing a condition of the system

analogous to that occasioned by the suspension of the secretion of urine in cases of ischuria renalis, or in some cases of albuminuria. Dr. Alison explains this by supposing that 'the retention in the blood of matter destined to excretion is much more hurtful to the living body than the *reabsorption* into the blood of matters which have been excreted at their appropriate organs, but not discharged from the system in their natural way, owing to some mechanical obstruction in either the biliary or urinary passages.' In reference to this class of cases, Dr. Budd, in his work on 'Diseases of the Liver,' after detailing some observations recorded by Alison, Bright, Graves, and others, thus writes: 'It does not seem possible to deduce from the cases that have been related any sure means of distinguishing jaundice that results from suppressed secretion, from jaundice produced by temporary closure of the ducts, except in the particular cases where the jaundice immediately follows a powerful emotion, or occurs in the course of purulent phlebitis; or in consequence of known poisoning; or where, as in the instances related by Dr. Griffin and Dr. Hanlon, it occurs with peculiar characters in several members of a family, or in several persons living together, in succession. In all these instances, knowledge of the cause of the disease, or of some peculiar circumstances under which it may have arisen, gives significance to symptoms that would otherwise be vague and ambiguous. In other instances, where our judgment must be formed from the symptoms merely, the diagnosis is much more difficult.' Now, it has struck me that the examination of the urine might be of some use in forming not only our diagnosis, but also our prognosis, in these cases of jaundice, particularly as in none of the cases recorded by the writers I have mentioned is there any analysis given of this secretion. I have, therefore, had the urine in some cases of jaundice carefully examined by competent persons lately, and shall proceed to detail one case, and give the results of two others nearly similar, in all of which an important principle of the bile was detected in the urine."

Dr. Lees then relates a case of extreme jaundice from retention of bile, the retention being due to obstruction of the ducts by cancerous growths; and he refers to two other cases of an analogous character, in which, notwithstanding the saturation of the system with bile, there was a complete absence of any symptoms referable to the nervous system. In these cases *cholic acid* was found in the urine; and it is to the excretion of this principle in this way that Dr. Lees is disposed to refer the absence of the nervous symptoms. So far, however, this is a mere assumption, and no cases are given to show that, where the nervous symptoms are present, there has been an absence of cholic acid in the urine. Unfortunately, also, the means of verifying the presence of cholic acid are complicated, and we may yet have to wait some time for the required evidence.

ART. 44.—*An inquiry into the Statistics and Pathology of some points connected with Abscess of the Liver, as met with in the East Indies.* By Mr. WARING.

(Trevandrum, 8vo, pp. 206, 1854.)

This essay is very rich in valuable statistical information. It contains, indeed, careful abstracts of no less than 300 cases of fatal hepatic abscess, of 81 cases in which the contents of the abscess were evacuated, and of 25 cases of spontaneous recovery. These cases are carefully analysed, and many interesting results are evolved, of which we may mention the following.

It is found, for instance, that the proportion of cases of hepatic abscess occurring after or during the progress of hepatitis, dysentery, and fever, is not only much larger than that of any other disease, but of all diseases put together. Thus :

	No.	Per Cent.
Hepatitis, acute and chronic	131	or 43·666
Dysentery, acute and chronic	82	„ 27·333
Dysentery and hepatitis, or hepatic dysentery	14	„ 4·666
Fever, or common continued fever	14	„ 4·666
Intermittent fever	5	„ 1·666
Remittent fever	3	„ 1·000
Diarrhoea or purging	6	} „ 2·333
Diarrhoea and intermittent fever	1	
Admitted with hepatic abscess evidently formed	6	„ 2·000
Catarrh and catarrhal fever	2	} „ 6·333
Delirium tremens	2	
Rheumatism	2	
Abdominal inflammation	2	
Constipation	2	
Constipation and a swelling simulating ventral hernia	1	} „ 6·333
Injury of the side from contusion or fall	3	
Ulcer on the leg followed by dysentery	1	
Disease of the brain	1	
Acute ophthalmia	1	
Disease of the knee joint	1	} „ 6·333
Pneumonia (?) following unusual exertion	1	
Doubtful	19	„ 6·333
	300	100·000

The terminations of these 300 abscesses are as follow :

	No.	Per Cent.
Remained intact	169	56·335
Evacuated by operation, a solitary abscess being present	29	16·000
" " there being numerous abscesses, one opened, and the others remaining intact	18	
One abscess opened by operation, another subsequently burst- ing into the abdominal cavity (No. 27)	1	
Opened spontaneously into the thoracic cavity	14	4·666
" " into the right lung	28	9·333
" " into the abdominal cavity	15	5·000
" " into the colon or large intestines	7	2·333
" " into the stomach (No. 243)	1	6·333
" " into the hepatic vein leading to the vena cava (No. 222, 223)	2	
" " into the hepatic vein at its junction with the vena cava, and another communicating with the cellular tis- sue around the right kidney (No. 233)	1	
Communicated with the hepatic ducts (No. 284)	1	6·333
" with the right kidney (No. 32, 253)	2	
" with the gall-bladder (No. 160)	1	
" with an abscess in the iliac region (No. 81)	1	
Opened spontaneously through the ribs in the back (No. 244)	1	6·333
One abscess had opened into the colon, and another had passed off by the hepatic ducts into the duodenum (No. 149)	1	
One abscess had opened into the stomach, a second into the duodenum, and a third had been evacuated by operation (No. 241)	1	
One abscess had opened into the abdominal cavity, and a second into the lungs (No. 48)	1	6·333
Terminated in erysipelas of the lower extremities simulating phlegmasia dolens, the abscess opening into the lungs (No. 274)	1	
Doubtful	5	
	300	100·000

The eighty-one cases in which the contents of the abscess were evacuated by operation (which cases occurred in India, at various times, during the last 50 years), are made the subject of the following remarks.

"The proportion of recoveries and deaths, in these 81 cases, in which the contents of the abscess were evacuated by operation, is as follows :

Recoveries	15 or 18·519 per cent.
Deaths	66 ,, 81·481 ,,
	<hr/>
	81 100·000

"This proportion of recoveries, small as it is, I fear is overrated, as

it is a practice with some medical men, to give prominence to successful cases, and to bury in oblivion those which prove unsuccessful. It is a practice alike unphilosophical and culpable—but easily comprehensible—no one likes to be the herald of his own failures.

“Duration of life after the operation, in 47 instances:

Died the same day	1	The total number of days of life after operation in these 47 cases, is 842; giving an average of about 18 days to each case.
„ the following day	7	
„ from the 2d to the 5th day	10	
„ „ 6th „ 10th „	9	
„ „ 11th „ 15th „	6	
„ „ 16th „ 20th „	2	
„ „ 21st „ 30th „	4	
„ „ 31st „ 40th „	1	
„ „ 41st „ 50th „	3	
„ „ 51st day and upwards	4	
—		
47		

“The circumstances which appear to have induced or hastened a fatal termination, may be ranged as follows:

The presence of other abscesses in liver besides the one opened	19
A combination with dysentery	17
Gangrenous or sloughing condition of the abscess walls, &c.	4
Abscess communicating with the lung (iii, lviii)	2
„ „ with the colon (lix)	1
„ „ with the pericardium (lxxx)	1
Two other abscesses opening spontaneously (lxxix)	1
Another abscess bursting into the abdominal cavity subsequent to the operation (xxii)	1
Impervious state of the hepatic ducts, delirium (lxv)	1
Escape of matter through the puncture into the abdominal cavity, causing excessive inflammation (xix, lxxviii)	2
Abscess making its way by ulcerative absorption through the coats of the stomach (xlv)	1
Hemorrhage into the sac of the abscess (xlix)	1
—	
51	
—	

Death was preceded by great exhaustion, in	6
„ „ hectic fever, cold sweats, &c., in	5
„ „ diarrhœa (colliquative), in	4
„ „ delirium, in	2
„ „ convulsions, in	1
The patients gradually sank, or the symptoms progressed unchecked in	6

“In none of the fifteen cases of recovery does the hepatic affection appear to have been combined with dysentery; in some, this is distinctly stated; in others, it is an inference drawn from the history of the case, the bowels being reported as regular, torpid, and the stools feculent, &c.

“The proportion of cases of hepatic abscess which hold out a reasonable hope of cure by the performance of an operation for evacuating its contents, is much smaller than most persons are aware of. There

are two conditions or circumstances which preclude the probability—it may almost be said, the possibility—of the operation proving successful. 1. The existence of a plurality of abscesses. 2. An ulcerated state of the large intestines, or in other words, the coexistence of dysentery. Let us see in how many of the 300 fatal cases, given in the first part of this paper, the operation under these circumstances would have been applicable.

Total number of cases	300
There were a plurality of abscesses in	108
	<hr/>
	192
Of the 177 cases in which the abscess was solitary, there was more or less extensive ulceration of the large intestines in	76
	<hr/>
	116

“Thus it appears, that out of the whole number, only in 116, or little more than 1 in 3, could the operation have been undertaken with any reasonable probability of success; and this number would, of course, be still further diminished, by taking into consideration the cases in which the abscess, though solitary, communicated with the lung, colon, or some other viscera, and those in which other organic disease existed.

“Important, as it must be admitted, statistical data, such as the above, are in all disease, yet too much reliance should not be placed upon them when the question actually presents itself, whether or no an operation should be undertaken in any individual case. Under such circumstances, the surgeon must rely on his own judgment as to the propriety of undertaking it; the condition of the patient, his strength of constitution, the extent of the disease, the complication with other lesions, &c., all these should have the first consideration.”

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 45.—*The nature and treatment of Diabetes Mellitus.* By Dr. HEADLAND.

(*Medical Times and Gazette*, Feb. 17, 1855.)

What is the physiological cause of this abnormal and excessive secretion of glucose, or grape sugar? Three chief theories had been brought forward to account for this.

1. *Theory of Renal Disorder.*—By Dr. M. Good, and others of his time, it was supposed that the glucose was formed by the kidney in the act of secretion. The author discusses the various alleged morbid conditions of the kidney in diabetes, none of which are known to be constant. The discovery of sugar in the blood, and other secretions of diabetics, is sufficient to overthrow this theory.

2. *Theory of Saccharine Assimilation;* held by Bouchardat in France, and by the majority of physicians in England. It supposes that the formation of glucose is due to a deranged digestion or assimi-

lation. Most consider that it is formed in the stomach; others blame the liver. This notion, also, the author disclaims—arguing that, after a meal on starchy matters, grape sugar may be found in the blood of a healthy man; that it is part of the function of the liver to form sugar and fat out of albuminous compounds; and that this explanation does not account for the excretion of sugar, for grape sugar given to a healthy man does not pass out in the urine.

3. *Theory of Saccharine Non-assimilation.*—Supported by Mialhe, Liebig, B. Jones, and others. To this the author gives his own adhesion. It derives confirmation from the experiments of Lehmann, Dumas, and D. Thomson. The starch of the food is the chief supporter of the respiratory process. Starch cannot be absorbed without being first changed into dextrine. This is a sort of transition to grape sugar, into which it is all formed in the blood. This grape sugar is not yet in a condition to be oxidized; it is therefore again changed into two atoms of lactic acid (or some very similar material). This then combines with oxygen in the blood, supporting the animal heat by its combustion, and forming carbonic acid. These changes require certain agents, probably ferments, to effect them. Supposing they have proceeded as far as glucose, and the agency be wanting which should change this into lactic acid—then the glucose, not being available to the system, is excreted in the urine. The liver attempts to supply the want by forming glucose and fat out of albuminous food. This glucose passes also into the urine. In addition to all this waste, the very tissues are preyed upon to supply fuel for the respiration. The author then discusses at length the subject of treatment under the following heads:

A. *Erroneous plans of Treatment.*

1. Attempts to prevent the formation of glucose.
2. Attempts to hinder the excretive function of the kidney.

The first is a natural process; the second is a healthy provision.

B. *Doubtful plans of Treatment.*

1. The use of diuretics.
2. Stimulation of the nervous centres, as by strychnia.
3. Treatment directed to the liver.
4. The use of oxidizing agents.

C. *Correct plans of Treatment.*

Dietetic rule.—To supply, if possible, such articles of food as shall be able, at the same time, to nourish the patient, and to maintain the respiratory combustion without passing through the stage of glucose. (Among other things, fat and oils, dry wines, and milk, are recommended.)

Therapeutic indications:

1. To give some remedy that shall seem to be capable of causing the glucose to undergo its normal transformations. (Yeast, rennet, pepsine, &c., are discussed.) The author particularly recommends *milk just turned sour*, as containing a decomposing caseine, which transmutes milk sugar into lactic acid. He had advised the use of this remedy in his 'Essay on the Action of Medicines.' It should be used as an article of diet; or it may also be given in enemata, and in warm footbaths.

2. To replace the urinary secretion by means of diaphoretics and purges.

ART. 46.—*Cases of Diabetes treated by Rennet.*

By Dr. NELSON of Birmingham.

(*Lancet*, Jan. 20, 1855.)

Dr. Nelson relates the following three cases for the purpose of showing that rennet is valuable:—

“Firstly. In acting as a substitute for the morbid deficiency of the natural gastric juice; and

“Secondly. In thus allowing time for other remedial agents to be employed, which may be considered counteractive of the essence of the disease, whatever that may be thought to be.”

CASE 1.—R. R——, æt. about 62, first came under my care in the latter end of the year 1852. He had been labouring under diabetes for about twelve months. He was broadly built, and his complexion was rubicund; but he stated that he had formerly been much stouter, and of higher colour. He complained of debility, languor, and sleeplessness; he had no appetite; his tongue was thickly furred; and his breathing very short. He could not sleep at night, partly from mere restlessness, and partly from the intense thirst. He passed about ten or twelve pints of urine in the twenty-four hours, of specific gravity 1035. Bowels regular, and no cough. He had been taking stomachic bitters and ferruginous preparations, which I then saw no reason materially to change; and afterwards I prescribed lime-water, which I had in former cases used with some benefit; but, though it diminished the excretion of urine, it seemed to increase the constitutional irritability, even when combined with free doses of opium and hyoscyamus. In about a month after, the rennet was resorted to, along with the adjunct of stomachic bitters and sedatives, and while he took, before each meal, a draught of infusion of gentian, with the carbonate and phosphate of soda, along with hyoscyamus and hydrocyanic acid, he drank with his food whey or water, with an addition of rennet. In a short time thereafter, a remarkably beneficial change came over his general symptoms. Within three weeks, his appetite became much improved; he ate his food with relish, and could walk without fatigue, slept better, had much less thirst, and his urine diminished to six pints in twenty-four hours—specific gravity 1030, and, on being boiled with liquor potassæ, turned to a dark-sherry colour, instead of a deep port as at first.

In the course of a month more, the changes were still more favorable. He felt strong, and breathed easily under exertion; his appetite was good, and his perspiration natural; he slept soundly, and had no remarkable thirst. The urine came down to four or five pints, of still less specific gravity, turning to a pale orange under potassa, and not compelling him to rise during the night. He had also gained about ten pounds in weight; and so continued in this improved, though not cured, condition, persevering with the rennet, and with the limited use of saccharine food. He died about twelve months thereafter, of a very sudden attack of extensive bronchitis, from exposure to cold after heat; but, up to that time, had no suffering from the usual symptoms of the diabetes.

CASE 2.—Mr. T. A——, æt. 45, had been known to labour under diabetes for about eighteen months before I was called in; and was so exceedingly

reduced as to be quite confined to bed. As he lived at some distance in the country, I saw him once a week. On the first visit, he complained of heavy headache, sleeplessness, and restlessness. He had no appetite whatever, and drank milk alone. He seemed pale and haggard; his tongue very dry; his skin without a particle of moisture, in some parts like rough parchment; and his emaciation extreme. He had pains in his extremities; and also over the liver, stomach, and bowels. The coughing was incessant and exhausting; and there was a very great expectoration of glairy, gelatinoid, and sweet mucus. The stools were white; and, though the percussion over the chest was good—excepting at the lower part of the right side—there was large moist rattling all over the chest, and a peculiarly harsh, leather-creaking sound at the inferior part of the right side. The urine amounted to twelve pints, of 1045 specific gravity, and the thirst corresponded. The case appeared desperate; unless the morbid conditions of the lungs and liver could be amended, which was very doubtful. However, he was ordered an expectorant draught, and also took the rennet with food, as in the first case, and his diet was ordered to consist of eggs and oysters.

After eight days there seemed little change, except that the expectorated fluids were fuller of air-bubbles, and rather more purulent. The stools were still white; pills of ox-gall were prescribed along with the rennet. He was also blistered over the right side.

Eight days afterwards there was still but very little change, but the stools were certainly a little better coloured. Otherwise he was much the same. However, in a fortnight more, he stated that his headaches were gone, and that he slept a little better at night. His tongue was moist; his appetite was improved; he could eat a little solid food without drinking, there being now a natural secretion of saliva, which he had not experienced for more than twelve months before; he looked stronger and more cheerful; the expectoration was yellower and less gelatinoid, and tasted salt instead of sweet. The stools were still rather pale; but the urine and the thirst were notably reduced, and there also appeared a red sediment in the fluid after standing. He took some mercury and chalk with taraxacum, and continued the ox-gall and rennet as before.

On the 9th of May, his stools were still pale; but the symptoms were otherwise rather favorable, excepting as regarded the cough and profuse expectoration. He now drank not more than half of what he used to take, and his urine amounted to only six or seven pints. Mixture continued.

On the 16th of May, about forty days after the first visit, he was eating light food tolerably well, and had plenty of saliva; he also was stronger, as was evidenced by his sitting up in bed more easily; he perspired freely, which he had not done for a long time; his cough troubled him on cold days, and was easier when the weather was warm; he drank rather more fluid than he passed by the kidneys, though not particularly thirsty; and his urine was reduced to from four to four and a half pints, containing a good deal of red sediment, having the natural rank odour, and a specific gravity only of 1030, boiling, with potassa, to an orange hue. Crackling bladder sounds were still heard over the right side, with marked dulness, and stools pale.

Up to June 6th, these comparatively favorable symptoms continued, interrupted by occasional attacks of diarrhoea, which commenced with acute pains in the epigastrium, gradually worked downwards, and were only relieved by the tincture of opium. At this time, the weather getting cold and unsettled, his cough and other chest symptoms became much aggravated, and his appetite failed again, but there was no return of the thirst, nor any great

micturition of saccharine urine. After this he fluctuated, but rather, on the whole, got worse from week to week. His cough and expectoration became more intractable; the pain and dulness on the right side increased; the stools continued pale, whenever the ox-gall was not taken; purging set in more obstinately than before; his tongue, &c., became aphthous; and he ultimately died on the 26th, but without any return of the one peculiar symptom of diabetes, beyond the extent last mentioned.

CASE 3.—Mr. J. P——, æt. about 56, consulted me first in the earlier part of October, 1853, stating that he had had diabetes for upwards of twelve months past. He was pale and sallow, had become greatly reduced and debilitated, and had lost appetite; his skin was very dry, and his secretions generally sluggish. He could not eat without washing the food down with copious draughts of fluid, there being scarcely any saliva, and he was unable to sleep at night from the intolerable thirst. He passed about twelve or fourteen pints of urine a day, largely charged with sugar, specific gravity 1045, clear and pellucid; vital organs otherwise acting well, but bowels rather torpid. He was ordered some aperient pills, a bitter stomachic mixture with the carbonate and phosphate of soda, and hydrocyanic acid, before food, and as much of the fresh rennet, with whey, as he chose to take at meals.

From the first period of taking it some amendment was experienced in his general sensations, as to languor, enjoyment of sleep and food, and also in the gradual decrease in the amount of urine, and in the frequency of passing it. There also began to appear a cloudy sediment in the urine, which had not occurred before; yet it was not till beyond the middle of November that any very notable alteration showed itself; at that date, however, the amount of urine was decidedly less, not exceeding six or seven pints a day. The odour was now a little rank, and it had some rank granular sediment. He could eat without requiring to drink so much, and was not so disturbed at night by thirst. The specific gravity came down to 1040, he had gained two pounds in weight, and the moisture had returned to his skin.

By December, he passed less liquid by the kidneys than he drank, and was further improving, when, from misapprehending the purport of an observation that I had made concerning the returning perspiration being a good symptom, he walked himself hard, even to sweating, caught cold, and felt again weak. The cough was soon subdued, however, and he went on again gradually improving as before.

In January, 1854, his appetite was reported excellent, and his saliva abundant; his skin was quite moist, and he particularly remarked the returning natural odour of his toes, which had not been apparent since his first illness. He had no unnatural thirst whatever; slept soundly all night, and his urine did not exceed four pints, of 1030 specific gravity, and natural rank odour. Instead of the residuum of the evaporated urine now smelling sweet on being burned, it had a rank, sharp odour, consisting in a great measure of lactic acid, with but a limited amount of sugar.

In February, not only did all the other symptoms, as above described, continue so far favorable, but he also reported the return of his virile functions, which had long been entirely suspended. This was a sufficient evidence of such change in the blood as was necessary to restore all the natural secretions. He continued to use the remedy, and had no relapse at the last period of my seeing him, when he had gained twelve pounds in weight.

ART. 47.—*A new test for Sugar in Urine.* By M. LUTON.

(Gaz. Méd. de Paris, Jan. 27, 1855.)

This test (so it is said) is easily prepared and unalterable. It acts immediately, and without any preliminary preparation of the urine, and succeeds in some cases when the tests in ordinary use act only slowly or obscurely. The action, moreover, is not at all disturbed by the presence of uric acid, urea, or albumen.

This test is prepared by adding sulphuric acid in excess to a saturated solution (cold) of bichromate of potass, in such a way that some free sulphuric acid will be present when all the chromic acid is liberated. It is, therefore, composed of water, chromic acid, bisulphate of potass, and an excess of sulphuric acid. The colour is a beautiful limpid red. If sufficient of the test is added to diabetic urine to communicate a red colour, and the mixture be then warmed, there is a brisk effervescence, and the colour changes from red to emerald green.

The theory of this reaction is very simple. The chromic acid is an energetic oxidizing agent, particularly in presence of another acid. It gives up some of its oxygen to the sugar, and the result is carbonic acid, water, and sesquioxide of chrome, which sesquioxide dissolves in the free sulphuric acid, and forms the persulphate of this sesquioxide.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 48.—*On the treatment of certain common forms of Skin Disease.*

By Dr. BENNETT, Professor of Clinical Medicine, &c., Edinburgh.

(Edinburgh Monthly Journal, Jan., 1855.)

The following passages are from a paper containing an account of Dr. Bennett's experience in the ward for skin disease attached to the Royal Infirmary at Edinburgh:

"*Eczema* is by far the most common disease met with, both in its acute and chronic forms. The local treatment I have found most efficacious is that which I recommended, in the August number of the journal for 1849. It consists in keeping the affected part moist, with lint or linen saturated in a very weak alkaline solution, consisting of soda subcarb., ʒss, to a pint of water. For this purpose it is necessary to cover the moistened lint with oil silk, or gutta percha sheeting, which should well overlap the lint below, so as to prevent evaporation. The usual effect is soon to remove all local irritation, and especially the itching or smarting so distressing to the patient; to keep the surface clean, and prevent the accumulation of those scabs and crusts, which in themselves often tend to keep up the disease. After a time, even the indurated parts begin to soften, the margins of the eruption lose their fiery red colour, and merge into that of the healthy skin, and, finally, the whole surface assumes its normal character.

"In private practice, it is often a matter of great difficulty to secure a proper application of the lotion. Individuals are slow to accept the

idea that constant moisture of the part is absolutely necessary for the treatment, and hence vigilant superintendence and frequent visits are requisite, in order to watch the progress of the case. Even in the hospital constant watchfulness is necessary, to see that nurses properly cover the eruption; and when, as sometimes happens, this task is given to the patients themselves, it almost always fails. Then there are some portions of the surface which it is very difficult to keep moist and well covered, such as the face and axillæ. But, by carefully adapting lint and gutta percha sheeting, attaching strings to the edges of the latter, so as to keep the whole in its place, I have never failed in ultimately carrying out my object.

"In addition to stating what I have found to be useful, it is important to say what I have, on careful trial, ascertained to be useless or injurious. Perhaps no remedy is more generally employed in this and a variety of other skin diseases than citrine ointment, an application that I have always found to irritate and make eczematous eruptions worse. At the same time, there are some very chronic forms of the disease, which I have been told are cured by this preparation, but what these are I have never been able to ascertain. Indeed, all greasy applications whatever, in the majority of cases, are useless, and the patients themselves inform me, are very 'heating.' In some rebellious chronic instances, I have thought the oil of cade has been beneficial, applied locally, although I have not yet tried it sufficiently often to recommend it strongly. In a few cases of acute eczema, I have tried the freezing process recommended by Dr. Arnott, but the salt of the frigorific mixture, and the cold itself, has caused apparently so much agony that I have been deterred from using it, especially when the emollient moist alkaline application is so efficacious. This mode of treatment, however, undoubtedly demands further trial, and I propose to report a more extended experience of it on some future occasion."

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"*Lichen and Prurigo*.—In both these affections constant inunction with lard is as beneficial as constant moisture in the eczematous and impetiginous disorders. In the prurigo of aged persons, the *Ung. Hyd. Precip. Alb.* is a useful application, although the disease is not unfrequently so rebellious as only to admit of palliation. The chronic papular diseases often constitute the despair of the physician.

"*Psoriasis*, and that modification of it known as *lepra*, are very common diseases, and are uniformly treated by me externally with pitch ointment. I have satisfied myself by careful trials that it is the pitch applied to the part that is the beneficial agent, as I have given pitch pills, and infusion of pitch, largely internally without benefit. With the hope of obtaining a less disagreeable remedy, I have frequently tried creosote, and naphtha ointment and washes, but also without benefit. Lastly, I have caused simple lard to be rubbed in for a lengthened time, but without doing the slightest good. The oil of cade is also very useful, especially in psoriasis of the scalp. Internally, I give five drops each of Fowler's solution, and of the tr. cantharidis. It is rare that the internal treatment alone produces any effect on a case of psoriasis of any standing. If a case resists

this conjoined external and internal treatment, I have always found it incurable. About a year ago I carefully treated a series of cases internally, with Donovan's solution, without producing the slightest benefit.

"*Favus* is a very common disease in Edinburgh, and is most readily removed, first, by poulticing the crusts till they fall off, and the skin presents a smooth, clean surface; secondly, by shaving the hair; and thirdly, by keeping the scalp continually covered with oil, so as to exclude the atmosphere, and prevent the growth of the parasitic fungi, which constitutes the disease. For this purpose, a gutta percha or oil-silk cap must be constantly worn. A continuance of this treatment for six weeks produces a cure in young persons, if combined with cod-liver oil, generous diet, and anti-scorfulous remedies internally. I have tried the lotion of sulphurous acid, recommended by Dr. Jenner, and found it successful in a few cases, but the treatment by oil is so easy as to be far preferable to it. Very chronic cases are cured with difficulty, but so long as the oil is applied, the disease never returns, and mere freedom from the disgusting crusts is a great gain."

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"The great difficulty in the treatment of skin diseases generally consists in their having been mismanaged in the early stages—a circumstance I attribute to their not having, until a recent period, been much studied by clinical students. Many chronic cases of eczema are continually coming under my notice, which, in their acute forms, have been treated by citrine ointment, or other irritating applications, which almost invariably exasperate the disorder. I shall not easily forget the case of one gentleman, covered all over with acute eczema, who had suffered excessive torture from its having been mistaken for psoriasis, and rubbed for some time with pitch ointment. In the same way I have seen a simple herpes, which would have readily got well if left to itself, converted into an ulcerative sore, by the use of mercurial ointment. Nothing is more common than to confound chronic eczemas of the scalp with favus, although the microscope furnishes us with the most exact means of diagnosis. I need scarcely say that the correct application of the remedies I have spoken of can only be secured by an accurate discrimination, in the first instance, of the diseases to which they are applicable.

"The general constitutional treatment in all these cases seldom demands aperient or lowering remedies except in young and robust individuals with febrile symptoms. In the great majority of cases, cod-liver oil, good diet, and tonics are required. In a few instances, sedatives, both locally and internally, are necessary to overcome excessive itching or irritation. These the judicious practitioner will readily understand how to apply according to circumstances."

ART. 49.—*On the treatment of Acne Rosacea.* By Dr. MORRIS.

(Lancet, March 3, 1855.)

After some remarks upon the pathology and general treatment of this affection, in which known notions and rules are applied, Dr. Morris thus proceeds to speak of the local treatment: "The local treatment is of the highest importance, and the agent which I wish to place more prominently before the profession for this purpose is sulphur. I advocate its claims with the more freedom, as it is no new remedy, and has obtained weighty suffrages in past years. Thus Rayer says—'Cold sulphureous applications, *en douche* and *en arrosoir*, are very efficacious in restoring the skin to its natural state.' Other similar opinions might be added. In one remarkable instance this application readily effected a cure after the patient, a lady, had suffered the vexation of the complaint for twenty years, and had undergone an immense variety of treatment without benefit, ending with the homœopathic; in other cases the same result speedily followed after four and six years. It would seem that the sulphur works its way into the sebaceous follicles, where it probably dissolves to some extent in the oily secretion. It has been recommended as an internal remedy, in which case it might reach the same position, as it is eliminated by these glands when taken for any period. The form in which I have invariably used it is recommended by Mr. Erasmus Wilson for the treatment of acne in general. In my hands it has appeared to possess little, if any, influence over the punctated form; while for the rosaceous variety it appears to be the remedy. It is as follows: A drachm of camphor is pulverized with alcohol; twice as much milk of sulphur is then added (Mr. Wilson recommends sulphur sublimatum); afterwards distilled water, to render it sufficiently liquid for use. This lotion is smeared with the finger over the face freely at night, and more sparingly in the morning; the effect is generally very soon apparent, and is often most striking. The lac sulphuris often contains as much as sixty per cent. of sulphate of lime; this does not appear to interfere with the action of the remedy. This preparation is preferable, on account of its minute subdivision, which makes it less irritating, and also for its whiteness. The use of this lotion should be persisted in for a considerable period, if the blotches return; and if the surface be thus preserved in a healthy state, nature will gradually restore the deeper-seated structures to their normal condition. It does not appear to lose its efficacy by continued use. In conclusion, this annoying malady cannot be concealed; it obtains little commiseration; and if it be rendered in any degree a rare spectacle by the general adoption of what the writer believes to be an improved treatment, he will have amply attained his object in writing this paper."

ART. 50.—*Cases of a peculiar disease of the Skin.*

By Dr. SHEARMAN, of Rotherham.

(Medical Times and Gazette, Jan. 13, 1855.)

These cases are marked by a full eruption of a roseolous character, and by remarkable swelling of the skin on the chest, abdomen, and extremities, without pitting on pressure, and without albumen in the urine. Their nature is not very obvious.

"During the last two months," writes Dr. Shearman, "I have met with a peculiar eruption among children under 12 years of age, attended by symptoms so unaccountable and extraordinary, that I will relate the progress of two of them, for the express purpose of inquiring whether any disease of the same description has been observed by others in the profession. I have never met with two cases in the same house, although three of my little patients had several brothers and sisters. It therefore cannot be contagious. Nearly all of them had gone through measles many months since, and three had had scarlet fever the latter end of last year. In no case could I find either sore throat or red tongue.

"On the 5th of December I saw M. D—, a healthy boy, æt. 10, and found his face and eyes swollen, cheeks very large, not puffy, quite elastic, and a very full eruption all over the face and neck, exactly like the *roseola annulata* described by Mr. Erasmus Wilson, in Fasciculus IX of his admirable 'Plates of Diseases of the Skin,' except that the spots were not so circular. He had not a symptom of measles; his pulse, tongue, and appetite natural; bowels rather confined; urine free, acid, specific gravity 1020, and no albumen. On the 6th the redness and swelling had extended to the breast, without any marked symptoms of disordered functions. On the 8th it had extended to the abdomen and legs. He could not button his trousers, or put on his usual stockings, on account of the increase of size; yet there was no pitting, and no albumen in the urine. The only abnormal substance in the urine was a large quantity of epithelium and a few oxalates; the quantity was normal. On the 12th his abdomen was so much increased in size, that his trousers would not button by six inches. The only thing he complained of was the occasional itching and smarting, and the confinement to the house, which I had insisted upon. From this time the swelling and dark-red eruption gradually diminished; but he is still (December 26) not quite free. I examined the urine this day, but found not a particle of albumen.

"J. M—, a fine healthy boy, æt. 8, was seized on the 9th of December with swelling in the eyelids and upper part of the face. He had recovered from measles about three months ago, and his mother thought he was going to have another attack. When I first saw him I had seen four cases of the same disease, and then felt pretty confident this would take the same course. I told his mother he would swell all over as the dark-red patches of inflammation in the skin spread. This took place, going gradually down to the feet. On the 14th of December his abdomen was so large that he could not button his trousers. The child did not appear unwell, but ran about and

enjoyed himself nearly as much as when he was quite in health. He had no soreness of throat, nor was his tongue furred or red. He did not complain of thirst. The quantity of urine in this case was increased, specific gravity 1025, acid, no albumen, nor increased quantity of urea, but a good deal of epithelium and some oxalates. This boy has only just recovered his usual size.

"Altogether, I have had seven cases of this unusual complaint; but the two narrated were the most marked. The eruption has continued out from five to twenty days; and, invariably, the swelling and eruption have subsided together. As the eruption is so variable in the time of its continuance, it can scarcely be considered an exanthematous disease.

"I have not been able to ascertain that any account of a similar epidemic is on record. In vol. ii of the 'Lancet,' for 1848, there is a rare form of roseola described by Mr. Erasmus Wilson; but this was attended by violent febrile symptoms; whereas, my patients, with the exception of the roseolous eruption and general swelling of the cellular membrane, have ailed very little. The congested and dark red-coloured patches of skin were slightly raised above the level of the unaffected parts; but the general appearance of the skin was more what might be termed mottled, than assuming any definite form.

"My son, Dr. Charles Shearman, of Sheffield, has examined some of the urine of these patients; and he found nothing abnormal in it, except a large quantity of epithelium.

"I endeavoured to ascertain whether these children had been fed on any particular food, or whether the cows from which their milk came were diseased; but I found scarcely two obtained milk from the same source, and that their bread, meat, and puddings were all good. The only thing in common which three of them had taken as food was oatmeal; but I found other children who had eaten the same oatmeal were free from the disease.

"My treatment has been very simple;—rather low diet, mild saline aperients, and an occasional warm bath, which I found rather added to the discomfort of the little folks than relieved them."

ART. 51.—*Benzole as a remedy for Animal Parasites.*

By M. REYNAL, of Alfort.

(*Dublin Medical Press*, March 23, 1855.)

M. Reynal, of the Veterinary School at Alfort, has been long in the habit of employing benzole or benzin, in the treatment of animal parasites (he having been led to this practice in the first instance by an observation of M. Milne Edwards that the vapours of the fluid is very fatal to insects), and he now proposes a similar treatment in the same class of diseases in man. In veterinary practice M. Reynal has found that this liquid is more effectual and more innocent than tobacco juice, mercurial ointment, or any other of the many remedies used—the parasites being destroyed without any injury to the skin.

Benzole or benzin is a clear, colourless fluid, having an ethereal odour: it is produced by the decomposition of benzoic acid, and of some other organic products.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING INFLAMMATION.

ART. 52.—*On Erysipelas.*

By Mr. SKEY, Surgeon to St. Bartholomew's Hospital.

(*Lancet*, March 24, 1854.)

THESE remarks occur in a clinical lecture recently delivered at St. Bartholomew's Hospital.

"The result of my personal observation of the nature of erysipelatous inflammation is, that it is always a disease of debility—that is, occurring in a debilitated constitution. You will find it almost invariably well marked in the pulse, which is either quick, or soft, or compressible. By the latter term is understood a pulse that is arrested by slight pressure. This is an unfailing sign of want of power. It follows depletion, whether directly by loss of blood, or indirectly by diarrhœa, or designed purgation. It is arrested by agents that restore blood, and give tone to the system. Such are my reasons for believing that erysipelas should be treated by tonics and stimulants, and not by purgatives, alteratives, and other depletives. You will think me eccentric, perhaps, in my practice after all you have seen done and heard praised by others, when I tell you I have no respect for "alteratives," and little anxiety about the "secretions." When a patient's powers are depressed to the extent of lighting up disease, it appears to me that the first indication is to endeavour to put a stop to the disease by raising my patient above the level of it. Irregularity of the secretions may be a concomitant evil, but is not a primary or even a positive one; and the disease does not depend on them, but on a want of vital power. To attack the secretions, is to lose valuable time. I am not altogether a convert to the "secretions" doctrine. I do not so frequently as many others find them at fault. Besides, to speak honestly, I entertain a certain amount of self-distrust; for I candidly confess I do not exactly understand what is meant by the secretions—nor do I quite comprehend to what purpose that universal, and I presume, therefore, that invaluable agent, mercury combined with chalk, is administered. This is one of the mysteries of medical practice. If it be meant that the "secretions" relate to the liver, I am in doubt, because I don't see it. As you get on in life, gentlemen, you will have gradually unfolded to your view the atrocities of this wretched organ, which has more sins laid to its door than all the remaining organs of the body put together, and being all the time the least offending, perhaps, of the entire group.

“In idiopathic erysipelas, if you find the subject in strong vigorous health, with a firm, hard, and incompressible pulse, give him purgatives, give him diaphoretics, and bleed him by leeches, the scarificator, or the lancet; but, on the contrary, if you find his pulse quick or slow, it matters not which, soft and compressible—if he has been the subject of illness, and has the aspect of weakness—if he reside in a confined part of a crowded city like our own—under these circumstances, order him three, four, or five grains of sulphate of quinine, every four or six hours for a single day. On the day following you may reduce the dose. Without dictating to you the appropriate treatment, I place before you for your selection these two very distinct principles, and you will observe that the latter is not at all incompatible with that proper attention to the action of the bowels without which we may get into some difficulty; but don't suppose it necessary to adopt that very eccentric doctrine that a daily action of the bowels is essential to health; and believe me, that in such a case as that I am describing *relaxation is a greater evil than constipation*. I say, then, if you get a case of erysipelas based on real strength, employ your lancet or your depleting purgatives to your heart's content. But you will not readily obtain the opportunity, for erysipelas is essentially a disease of debility, and when you have witnessed, as I have frequently done, the excellent influence of quinine, of bark, and of wine, you will feel as thoroughly convinced of this truth as I am.

“Between idiopathic and traumatic erysipelas there can be no real difference, yet it is only lately that I have had the opportunity of testing the value of the same principle of treatment in the traumatic form. In the boy John C—, an attack of erysipelas followed a very severe laceration of the scalp, in which nearly one third of the integuments of the cranium were torn from the subjacent bone. On the occurrence of erysipelas, which presented itself in a somewhat severe form, I did not hesitate to give him quinine, and with complete success, for the boy improved from the hour of its administration. Now, supposing to this attack of inflammation delirium had been superadded, would it have been warrantable to resort to the same agent. I have no doubt it would, and I think you may employ quinine or bark in this disease in all its stages, whether coupled with delirium or not; for delirium is but an indication of an advanced stage of the disease, and we have no possible ground for classing it among the inflammatory affections of the brain.”

ART. 53.—*On the application of Sulphate of Iron in Erysipelas.*

By M. VELPEAU.

(*Bull. de Ther.*, 1855; and *Medical Times and Gazette*, March 10, 1855.)

M. Velpeau observes, that true erysipelas is constantly confounded with other inflammations (viz., phlebitis, diffuse phlegmon of the cellular tissue, and angioleucitis), which differ from it in their causes, seat, progress, danger, and treatment. A prolonged consideration of the nature of the affection has led him to lay down the following propositions:

1. Erysipelas, taken in its surgical sense, has its predisposing cause much oftener in external, atmospheric, or meteorological, influences than in the state of health, or general constitution of the patient. 2. The determining or occasional cause is, almost always, a wound, scabs, or some irritation of the integument. 3. Its efficient cause is, matters proceeding from without, or altered tissues, which mingle primarily or secondarily with the fluids of the part affected. 4. The fluids so affected induce general and local phenomena. The first occur before the second when there is, at the beginning, a passage of the fluids into the general current of the circulation. The order of occurrence is reversed when the change only takes place through imbibition. 5. The fluids in the inflamed skin, altered by the morbid element, only seem to circulate, or advance, by endosmosis—the erysipelas still, however, spreading itself along the dermis like oil upon a plain surface. 6. A large proportion of the morbid matter remains to the end under the epidermis, or in the cutaneous tissue, mingled with the blood in the inflamed part. 7. The totality of an erysipelas is almost constantly formed of several small successive erysipelases. 8. An isolated patch of erysipelas ordinarily disappears, of its own accord, in six or eight days. 9. The duration of the entire disease is very variable, according to the number of erysipelas patches that may succeed or combine with each other. 10. The remedies employed, whether external or internal, to be capable of dissipating such a disease, should especially possess the power of modifying the condition of the blood.

M. Velpeau furnishes us with the results of the different forms of *treatment* he has employed in above 1000 cases, in 400 of which he has kept exact notes. In 25 patients, *compression* by bandages was resorted to, with no advantage. In 33, *flying blisters* were applied, without diminishing the mean duration of the disease; these proving advantageous only in certain cases of phlegmonous erysipelas and angioleucitis. No satisfactory result followed the employment of *nitrate of silver* in 30 cases. In 200 cases, *mercurial ointment* was resorted to, with the effect of sometimes diminishing the duration of the affection by a day or two, and rendering it a little less painful. It is, however, very repugnant to the patient, spoils the linen, and sometimes induces salivation. *Lard*, employed in 23 cases, although not causing these inconveniences, was found even less efficacious. A variety of other substances have been tried by M. Velpeau, but, as he found them useless or injurious, we need not advert to them.

Calling to mind the modifications which the preparations of iron produce in the blood, it seemed to him that a disease so superficially placed, and one in which the inflamed tissues are so infused with altered fluids, was well calculated to be influenced by ferruginous preparations. He employed the *protosulphate of iron* in the proportion of 30 grammes to the litre of water (ʒvii fs. ad ʒxxxv), or 8 parts to 30 of lard. In 40 cases in which this was tried, the erysipelas yielded in from 24 to 48 hours. It is, however, remarkable that, when thus extinguished at this point of departure, it will still spread beyond this, along parts already infused with the iron. Whether the inflammation, in order to undergo modification, requires to be-

come fully developed, and whether the remedy is merely curative, without being preventive, further researches must show. More easily applied to some parts, the ointment would be preferable; but it is somewhat less efficacious than the lotion. When used, it should be applied three times a day to the erysipelatous patch, and some way beyond its margin. The lotion should be applied by means of compresses, which are to be kept on with bandages, and wetted every few hours, so as to keep the skin always moistened. Thus far the remedy has never failed in cutting short the erysipelas; but it has a disadvantage in iron-moulding the linen.

ART. 54.—*Report on Carbuncle.* By Dr. HUTCHINSON.

(*Medical Times and Gazette*, Dec. 2, 1854.)

The following conclusions may be drawn from an elaborate report on cases of carbuncle occurring recently in London hospitals:

1. The frequency of carbuncle has vastly increased of late years, and still continues to do so.
2. But little is known respecting its predisposing causes.
3. It may affect any age, excepting perhaps the very young.
4. Men are much more liable to it than women.
5. It occurs without distinction, at all periods of the year.
6. It occurs in almost equal proportions among the temperate and well fed and the intemperate and ill fed.
7. It has a premonitory stage in a considerable proportion of instances.
8. Its general treatment should be by purgatives and alteratives in all cases, and by stimulants or salines, according to the character of the constitutional disturbance.
9. Incisions are demanded when a carbuncle is spreading, or attended by much pain.
10. In a great majority of cases, free incisions relieve the pain, and in a considerable degree arrest also the spread of the disease.
11. If the spreading and the pain have already ceased, no benefit will be derived from incisions, but the sloughing and suppuration will be much increased.
12. The "core" which separates consists, for the most part, of dead areolar tissue.
13. No proof exists that carbuncle exerts any eliminative influence on the system.

(B) CONCERNING TUMOURS.

ART. 55.—*The diagnosis of Surgical Cancer.* (The Liston Prize Essay for 1854.) By JOHN Z. LAURENCE, Surgeon to the Northern and Farringdon Dispensaries, &c.

Churchill, 8vo, pp. 77, 1855.

Mr. Laurence agrees with Professor Bennett in thinking that an accurate diagnosis can only be arrived at by investigating *all* the cir-

circumstances of the individual case, and he, therefore, proceeds to consider all these circumstances after a definite plan, illustrating his remarks with quotations from various standard authors, and by several good cases, occurring chiefly in University College and the Middlesex Hospitals. Of the value of the microscope, simply as a means of diagnosis, he holds—

“1. That in the greater number of cases of cancerous tumours the so-called cancer-cell will be found.

“2. That this form of cell is occasionally seen in growths manifestly innocent.

“3. That, *vice versâ* (what is, however, less frequent), tumours anatomically innocent prove clinically malignant—that ‘the cancer-cell is not the *sine quâ non* character of cancer.’

“4. That the inferences drawn from the microscopic examination are not to be deduced from a few isolated cells that may have happened to strike the eye, but rather from the characters of all the cells and of the field of view generally.

“5. That the results afforded by the microscope must take an important, but not an exclusive and overbalancing, position in the series of data, which are to serve us as the premises for our conclusion.”

The whole essay is well arranged, and undue length is not one of its demerits. It deals chiefly with old facts and positions, but not altogether so, as may be seen in the remarks upon the anomalous appearances of cancer in bones, which remarks we append.

“Last February, I had an opportunity of examining the femur of a patient who died in the Middlesex Hospital. The shaft of the bone, immediately below the trochanter major was expanded into a cavity which contained a mass of tissue of the most strange appearance. It was of an earthy light liver-colour hue (much that of boiled horse liver). It was soft, yet consistent, and tore with a coarsely fibrous fracture; at parts it retained the impression of the fingers like a piece of putty: scattered through this substance were several irregular ragged pieces of bone. The preparation when I first saw it (about twenty-four hours after death) had a peculiar earthy mouldy smell, quite different to what pathological specimens ordinarily possess. My esteemed friend, Mr. Sibley, of the Middlesex Hospital, and myself, examined the mass microscopically, when we found it to consist of—

“First, large finely granular fibres, in great quantity. Second, granular cells of all shapes and sizes. Third, here and there cells bearing some faint resemblance to cancer-cells. Fourth, some fibroplastic corpuscles. In one of the lungs a nodule of unmistakeable firm encephaloid was found. This consisted of all varieties of granular corpuscles, and Mr. Sibley observed some cells closely approaching ‘cancer-cells.’

“Shortly after, a very interesting specimen of tumour of the thigh fell under my notice. The section of this tumour displayed the following appearances:

“1st. A fleshy, tawny, elastic mass, which had a distinctly fibrous structure, and here and there exhibited points of translucency and

small cavities. This portion of the growth occupied the centre, and formed, as it were, the nucleus of the section.

"2d. Surrounding this was a layer of a soft material, exhibiting all the characters of fungous hæmatodes.

"3d. At the upper part of the section was a small piece of tissue, having the aspect of very firm white encephaloid.

"4th. Some bloody malignant tissue occupied the interior of the medullary cavity.

"*Microscopical examination:*

"1°. The 'fleshy nucleus' above described consisted of—

"(a) Multitudes of spherical granular cells of very variable size; and—

"(b) Granular fusiform cells, often with one or more caudations, conferring on them a very singular aspect, and, in rare instances, having traces of what appeared to be a nucleus.

"(c) A very few fibres.

"(d) Minute granules and shreds of disintegrated tissue.

"2°. The firm encephaloid mass consisted of—

"(a) Granular cells, with distinct large nuclei which contained nucleoli. These cells corresponded with what is generally accepted as the 'Cancer-Cell.'

"(b) Free nuclei of the forms of 'Cancer-nuclei.'

"3°. The tissue from the interior of the medullary cavity consisted of—

"(a) Granular cells of various forms and sizes, representing, as it were, the elements of the fleshy nucleus.

"(b) A few caudate genuine cancer-cells and some free nuclei, representing, as it were, the firm encephaloid.

"(c) Large bright tortuous fibres, not acted on by acetic acid, constituting the principal element of this portion of the growth.

"(d) In very rare instances, a very broad, densely and minutely granulated fibre was seen projecting beyond the general mass of the above fibres.

"(e) Immense quantities of fine granules of a fatty nature.

"Not a single cell which corresponded with Lebert's 'fibro-plastic cell' was observed at any stage of the examination of the entire growth.

"Not long since, Mr. Erichsen amputated above the knee for malignant disease of the head of the tibia. The compact structure was expanded into a shell of bone not a line thick, which adhered to the subjacent tumour. A section of this exposed (1°) a firm, but elastic, light tawny material, which inferiorly had a more grained yellow-ochre tinted appearance. Altogether this section exhibited a strong resemblance to the 'nucleus' of the preceding case. On cutting deeper (2°) a soft grey substance came into view; this was not unlike some of the softer varieties of encephaloid; but on further examination at the back of the head of the tibia, under cover of some muscular fibres, a piece of a small firm white lobulated tissue was discovered, with all the obvious characters of firm encephaloid cancer.

"*Microscopical examination:*

"1°. (a) Broad fibres rendered indistinct by acetic acid.

"(b) Cells of a fibro-plastic nature.

"(c) Cells approaching slightly the cancer-cell.

"2°. (a) Ovoid nucleolated nuclei.

"(b) Tolerable specimens of cancer-cells.

"3°. Consisted nearly exclusively of typical specimens of cancer-cells.

"No one of the preceding cases of cancer of bone contained any cancer-juice.

"From the above cases, and some others, I have been led to conclude that cancer of bone may present itself.

"1st. In the ordinary well-known form of the disease.

"2d. In the most anomalous conceivable anatomical condition, such as is not to be appreciated as malignant disease, excepting by a previous acquaintance with intermediate conditions.

"3d. In the intermediate conditions alluded to."

ART. 56.—*The treatment of Gun-shot Wounds in the late Danish war.*
By M. BINARD, Regimental Physician at Ghent.

(*Nou. Encyclogr. des Sci. Med.*, June, 1854; *Dub. Quar. Journ. of Med.*, Feb. 1855.)

"In the history of gun-shot wounds there is a very important point which has already given rise to numerous discussions; and the subject requires, I think, to be reconsidered in accordance with the new ideas which are at present justly beginning to prevail in reference to the treatment of contused wounds, complicated with more or less considerable injury of the bones. Is amputation necessary in the majority of cases of the latter description, or should numerous exceptions be made to the rule almost universally received since the commencement of the nineteenth century by military surgeons, in wounds with fracture of bones of more or less importance? Such is the question I am about to endeavour to answer, in availing myself of some interesting documents printed in a paper by the chief physician, Dr. Neise, in the *Deutsche Klinik* for 1853, and which is a *resumé* of all the reports published by the Danish surgeons on the wounded, furnished in tolerably large numbers by the war of the Duchies during the years 1848, 1849, 1850, and 1851.

"I have lately also read with interest a work on gun-shot wounds by Dr. Simon, published at Giessen, in 1851. This book has caused a sensation in Germany on account of some ingenious and novel views of the author, but especially in consequence of the manner in which he has treated the question of the expediency of amputation in cases of wounds with fracture of the thigh.

"It is, above all, in comminuted fractures of the thigh that this question has an especial importance. We know, in fact, that M. Ribes, agreeing on this point with the majority of French military surgeons, maintains that wounds with fracture of the two upper thirds of the femur rigidly demand amputation, since every attempt made to preserve the limb is invariably followed by a fatal termination.

"A prominent feature in the statements of the German and Danish

surgeons who had occasion during the war of the Duchies to perform amputation of the thigh in consequence of gun-shot wounds, is the great mortality by which they were followed. Thus, Dr. Clemmensen had 10 deaths among 15 who had undergone the operation. Dr. Djourup, in summing up all the cases of amputations of the thigh performed in the hospitals of Denmark, finds a total of 90 amputated, of whom 39 recovered, and 51 died (more than 56 per cent.)

“In Holstein, according to Dr. Esmarch, in 128 amputations of the thigh, there were 51 recoveries, and 77 deaths (about 60·15 per cent.) Under certain circumstances the mortality has been excessive: thus the principal physician, Dr. Gotz, who published in 1852, in the *Deutsche Klinik*, an important paper on gun-shot wounds treated in the hospital at Delve, reports that the nine amputations of the thigh which were performed, they were all followed by a fatal result, due in almost every instance to purulent infection. I may here remark in passing, that Dr. Clemmensen has observed, as well as Professor Velpeau, that purulent infection was more frequent among those who had undergone amputation than among the wounded who, in spite of severe injuries with abundant suppuration, had preserved their limbs.

“In viewing facts so unfavorable to amputation of the thigh in gun-shot wounds with fracture of the femur, Dr. Simon has broached an opinion entirely opposite to that of M. Ribes, and it must be acknowledged that it is supported by arguments of considerable weight. I am therefore induced to believe that surgeons now acquainted with the advantages to be derived from the employment of the new method (*méthode amovo-inamovible* in cases of severe fractures of the lower extremities, are, generally speaking, quite disposed to adopt the opinion of the German surgeon, and no longer to consider the dogmatic assertion of M. Ribes, as to the absolute necessity of amputation in fractures of the thigh in any other light than as referring to a last resource, which should not be employed but under exceptional circumstances.

“The following is the mode in which Dr. Simon, in the work already referred to, has expressed his opinion on this subject: ‘Comminuted fractures of the thigh, produced by balls, and occupying its middle or upper third, ought in every instance to be treated by endeavouring to preserve the limb. In those of the lower third immediate amputation should be had recourse to.’

“This doctrine, advocating an attempt to preserve the limb in every case of comminuted fracture of the two upper thirds of the thigh, is, perhaps, a little too general; but when we consider the great mortality which almost constantly attends amputations performed at that height, we shall be very much disposed to receive this almost absolute proscription of the operation under such circumstances. We may, in fact,—and present experience seems to prove it,—obtain a more favorable result by attempting to preserve the limb; the question is then reduced to this:—Is amputation of the thigh at this height attended with more danger than the treatment the object of which is the preservation of the limb? My answer would be, that, taking into account the efficacious means we now possess of

treating serious fractures of the lower limbs, I think we may adopt this first portion of Dr. Simon's opinion.

"But as to the necessity of immediate amputation in comminuted fractures of the lower third of the femur, although this operation is much less serious than that of the two upper thirds, I believe there will still be cases in which we ought not to have recourse to amputation, and where it will be more advisable to endeavour to preserve the limb. I think even that it would not be absolutely necessary to amputate immediately, except in cases where, the fracture of the bone extending to the knee joint, the latter should itself be the seat of considerable disturbance; for the formidable symptoms we should have ulteriorly to apprehend from this dangerous complication are of a nature to give a prominence to immediate amputation, as the only chance of saving the patient. In fact, while on the one hand the lesion of the femoro-tibial articulation greatly increases the seriousness of the fracture of the thigh, amputation, on the other hand, performed in this situation, is much less frequently fatal than it is when had recourse to at a higher point.

"In the war of the Duchies, moreover, the Danish surgeons had many cases in which they succeeded in preserving the limbs when the articulation of the knee had been traversed by a ball, and when the lesion of the bones was not too considerable; this was especially the case also in reference to the elbow joint.

"One of the principal reasons formerly adduced in support of the almost absolute necessity of amputation in cases of gun-shot wounds with comminuted fracture of the lower limbs, was the difficulty of transporting the wounded without causing great pain, in consequence of the more or less violent motions imparted to the fractured bones, which were thus exposed to a most intense inflammation. It was especially to a want of means for producing complete immobility of the injured limbs that such occurrences were referable. But this objection no longer obtains to the same degree, in consequence of the efficacy of the new apparatus (*nos appareils amovo-inamovibles*). I have lately witnessed, in a case of severe fracture of the leg caused by the kick of a horse, with what facility a wounded man on whom one of these bandages was immediately applied can be conveyed in a carriage without experiencing any kind of pain or injury.

"The facility of dressing without displacing the limb will be especially valuable in fractures where the splinters are numerous, and which are attended with abundant suppuration, and require frequent examination. I think the padded bandage will afford a decided advantage in this respect, and that it will be particularly useful in comminuted fractures of the thigh, for in such cases permanent extension is out of the question: we must indeed secure the immobility of the limb, but we must also place it in a position capable of being maintained for a long time without inconvenience, and we must therefore never extend it forcibly with the idea of remedying a deformity which cannot be of any importance after a lesion so serious as that under consideration, for if we succeed in preserving the limb, we must esteem ourselves very fortunate in having obtained such a result, even at the price of more or less deformity.

“The treatment of gun-shot wounds has latterly given rise to many controversies, and experience has happily modified some ideas which were too absolute, and has sanctioned some improvements. It is thus that the practice of incisions intended to prevent constriction (*débridement préventif*), formerly believed to be indispensable, is now acknowledged to be useless; that we no longer lay so much stress upon the extraction of certain foreign bodies, and that we willingly leave to the resources of nature, those which could be extracted only by prolonged or violent manœuvres; that trepanning the skull is abandoned as useless or dangerous in the majority of cases in which it was before believed to be directly indicated; that the resection of bones is properly preferred to amputation in the articulations, especially in the upper extremities, where this practice has been attended with so much success, that it ought to be adopted as the rule. I think, however, that the question of determining the absolute necessity of amputation in certain cases of fractures of the limbs, is one which should be reconsidered. Now that the treatment of this kind of injury has made so much progress, we must necessarily modify some generally received opinions, and seek the testimony of new facts in support of conservative surgery.

“The surgery of the day, essentially conservative as it is, should make its powerful influence felt on the field of battle, as well as everywhere else, notwithstanding the assertions to the contrary which are repeated in many books, and which are in general based only on very questionable statements of the older military surgeons.

“At the commencement of the late war, the Danish surgeons performed a much greater number of amputations than they did afterwards, because they had subsequently learned to modify their opinions as to the necessity of amputating immediately in certain cases of wounds with complicated fractures, for example, in those of the knee and elbow, which they at first looked on as imperiously demanding the removal of the limb. Favorable results frequently crowned their novel efforts, and they thus succeeded in preserving many limbs which a short time before would have been sacrificed, a lesson which all military surgeons will do well to bear in mind, when they shall be called on to deal with similar cases.”

After these remarks, the author gives a *resumé* of a paper by the chief physician, Dr. Niese, in the *Deutsche Klinik* for 1853, which paper is itself a *resumé* of all the reports published by Danish surgeons, on those who were wounded in the wars of Schleswig and Holstein during the years 1848, 1849, 1850, 1851. This *resumé* is also translated at length in the journal from which we obtain these particulars.

ART. 57.—*The prevention of smell in gangrenous sores by a charcoal coverlet.* By Mr. WORMALD, Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, July 1, 1854.)

In some cases of hospital phagedæna recently under his care, in St. Bartholomew's Hospital, Mr. Wormald made an ingenious and very

useful application of the disinfecting powers of charcoal. It is well known that dry charcoal will effectually absorb any noxious or offensive gas which can be made to pass through it. On this power, Dr. Stenhouse's disinfecting respirators depend for their efficiency. The difficulty in applying it in hospital practice has, however, arisen from the difficulty of keeping it at the same time dry and in a uniform layer around the part giving rise to effluvia. Mr. Wormald's plan consists in sprinkling freely between two sheets of cotton wool a tolerably thick layer of powdered charcoal, and then "quilting" them together in small segments, so that the powder is retained securely in its place. The pads, thus prepared, may be of any size, according as required to wrap round the end of a stump, or to cover a superficial ulcer. The sloughing sore having been dressed in the ordinary manner, and a little lint or wool so placed as to absorb any discharge which may flow, over all is laid the charcoal quilt, which is then lightly confined by a bandage. It forms, in addition to its disinfectant properties, a very soft and comfortable envelope, more especially if the sore be in such a part that the patient is obliged to lie on it.

ART. 58.—*On the importance of applying Pressure in the treatment of extensive Abscesses.* By Mr. SOLLY, Surgeon to St. Thomas's Hospital.

(*Lancet*, April, 1855.)

"I am not aware," writes Mr. Solly, "how far the plan which it is my object in this paper to advocate, is in general use or not; but I am so convinced of its value, that on the risk of most of your readers being accustomed to this treatment, I shall venture to bring it forward. I refer to the careful application of pressure over the surface of extensive abscesses after their contents have been discharged, and the early disuse of the poultice and its cogener, warm-water dressing. I always prefer cotton-wool to any other kind of pad, as it fits better with all irregularities of surface; and I find that a greater amount of deep pressure can be kept up by strips of plaster than by a roller. By these means the surfaces of the abscess are kept well in contact, they adhere together, and the discharge soon ceases. The following case is merely one amongst many that I could adduce, and it is interesting in connexion with the treatment of punctured wounds and purulent absorption. In this case of pyæmia, fortunately for my young friend, the matter was discharged into the cellular tissue of the axilla, and not into the lungs."

T. S.— was taken, on the 1st of March, 1855, with general lassitude and pain of the limbs, with headache and much prostration. Three or four days previously, he had received a dissection wound in the left thumb; and, on the above date, the part was painful, with some redness and swelling below the nail; the pain gradually extended up the arm, without, however, there being any visible indications of lymphatic inflammation, but with much constitutional irritation, and great prostration of powers.

On the 3d, there was pain and tenderness in the axilla, which gradually extended almost over the entire side; and on the 5th, there was general superficial redness. The swelling, however, seemed localized to a space about three inches below the axilla, with a diameter of about three inches.

I first saw the patient on the 6th, and ordered the application of six leeches, followed by linseed poultice. Infusion of roses, 1 ounce; dilute sulphuric acid, 15 minims; sulphate of quinine, 2 grains; syrup of ginger, 1 scruple; sulphate of magnesia, 10 grains; every four hours.

On the 8th, there was a feeling of deep-seated and indistinct fluctuation at the site of the swelling. Mr. South saw him with me, and considered it advisable to make an opening into the swelling, which was accordingly done; no pus escaped, but half an ounce of serum; and this continued to drain away, in small quantities, during the two following days; and on the 9th, a free discharge of pus commenced.

On the 10th, there was distinct fluctuation about five inches below the first opening; a free incision was made, and some pus discharged; both these openings continued to discharge freely during the next five days, and with considerable relief to the patient; the pain was much less, and the general constitutional irritation also considerably abated during this time. Strong beef-tea and port wine was administered *ad libitum*.

On the 15th, it was evident that there was a large collection of pus, just above the hip; and, on a free opening being made, nearly a pint of pus escaped. A large poultice was kept continually applied all over the side, and the pus was gently pressed out twice a day. At this time, the two upper openings were found to communicate; and a probe passed into the lower one could be pushed, without difficulty, for a considerable distance in either direction, so that the abscess extended from the axilla to the hip. There was free discharge of pus from all the openings, with dead cellular tissue, up to the 19th, when I ordered the poultice to be discontinued, and the whole side to be well padded with lint, and firm pressure to be kept up by means of broad strips of adhesive plaster, carried over the compresses. From the very commencement of this treatment, the discharge of pus rapidly diminished; at the end of five days, the two upper openings had quite closed, and the intervening structures had, to a great extent, recovered their healthy condition, there being tolerably firm adhesion of the opposed surfaces, which had been separated by the burrowing of the pus. The cavity of the lower abscess, which was of considerable size, also began rapidly to diminish, and at this time, March 26th, is apparently quite obliterated.

The patient's general health is rapidly improving; and he has been to the hospital again to-day.

(D) CONCERNING DISEASES OF THE BLOOD-VESSELS.

ART. 59.—*Cases of Aneurism treated by Compression.* By (1) Mr. MILLER, of Edinburgh; (2) Dr. JOHNSON, of Montrose; (3) Mr. MOORE, of Doncaster; (4) Mr. TEALE, of Leeds; (5) Mr. STUBBS, of Liverpool; (6) Mr. FERGUSON, of King's College, London; and (7) Dr. COLLIS, of Dublin.

1. (*Edinburgh Medical and Surgical Journal*, Jan., 1855.)
2. (*Ibid.*, Jan., 1855.)
3. (*Medical Times and Gazette*, Nov. 11, 1854.)
4. (*Ibid.*, Oct. 28, 1854.)
5. (*Ibid.*, Jan. 20, 1855.)
6. (*Dublin Quarterly Medical Journal*, Nov., 1854.)
7. (*Medical Times and Gazette*, Dec. 30, 1854.)

The following cases possess little or no special interest, except, perhaps, that of Dr. Collis, in which apparently some new light is thrown upon the theory and practice of the operation. They are, indeed, merely cited as *facts*, which may help those to a decision in whose minds the question of compression *v.* ligature is still *sub judice*.

1. *Dr. Miller's Case.*—This case occurred in the Royal Infirmary of Edinburgh. The patient was a shoemaker, æt. 42, from Galashiels, and was admitted March 23d, 1854. His general health was good, and the popliteal tumour was about the size of a hen's egg. Next day, Carte's compressor was applied on the femoral at its upper and lower portions. The pressure was moderate, and antiphlogistic regimen was enjoined. On the 27th, the upper compressor was removed, in consequence of the complaint of pain; and on the 5th of April, it was noted that there was much pain, swelling, and œdema of the limb. A lump of lead, with an elastic band attached, as used in the Dublin hospitals, was now tried.

August 1st.—Seventeen weeks since the commencement of the treatment, the tumour was harder and slightly diminished in size; pulsation was distinct. Flannel was ordered to be applied to the limb. The lead weights had up to this time been kept constantly applied above, and Carte's apparatus to the lower part of the limb.

3d.—The patient suffered much; anxious to have the artery tied. Carte's apparatus alone was now kept applied at night.

10th.—Pressure was abandoned; the tumour was harder, but still pulsating, becoming caudate towards its head, and increased in size towards the inner side.

24th.—Five months after admission, the artery was tied. The parts in its neighbourhood were found more matted together than usual. At 8 p.m., a slight thrill was perceptible in the tumour. There was sickness from the chloroform. Pain of the back was complained of.

25th.—The thrill was still less. Colchicum was given internally; and chloroform was applied locally to the back.

26th.—The thrill was scarcely to be felt; and on the 27th it was gone.

30th.—The thrill had returned; and on the 15th September, it was noted that the thrill was still present; the ligature was yet in the wound; it came away on the 18th.

October 10th.—The tumour was at length silent, and diminished in size. The patient was dismissed on the 14th.

2. *Dr. Johnson's Case.*—The patient in this case was admitted into the Montrose Infirmary, March 24th, 1854. The tumour was about the size of a small orange, and had been first noticed in the previous July, and gradually increased in size. The pain, at the time of admission, was severe, the symptoms well marked. The health was good, and the heart sound. Low diet, &c., was ordered, and digitalis given internally. Carte's apparatus was applied at intervals, and soon another instrument alternately with it. Up to the 16th of August, the tumour had become flattened, and diminished in size to that of a walnut. The pulsation was weakened, but was still apparent. The health now began to flag, and on the 23d, a ligature was applied. Slight pulsation was felt in the tumour on the 28th, but never returned. The ligature came away on September 14th; and on the 15th of October, the patient was dismissed from the hospital. Dr. Johnson attributed the successful issue to the fact of the pressure employed having developed the collateral circulation of the limb.

3. *Dr. Moore's Case.*—Lawrence Hyland, æt. 36, an Irishman, but has lived in England some years; a navigator, and accustomed to wheel great weights up inclines; a strong, well-made man; middle height; weight twelve stones.

General health always good; never recollects having had a fall or sprain; of sober habits.

About thirteen months ago, he felt pain behind the right knee, which used to come and go; and he perceived a small swelling behind the knee, the size of a marble.

About four months ago, the pain became more settled and continuous, and the lump began gradually to increase, but did not prevent him following his usual avocations until five weeks ago, when the pain became excessive, and the swelling, from its increased size, prevented the bending of the knee.

Admitted, August 9th, into the Infirmary of the Doncaster Union. Present state: A large aneurismal swelling occupies the lower and outer side of the right thigh, extending from the upper part of the popliteal space downwards and outwards to near the head of the fibula. Strong pulsation is distinctly felt along its whole course, and a very loud rasping murmur heard over every part of the tumour. Pressure on the femoral stops both the pulsation and murmur. It is compressible, but cannot be obliterated. The leg is very œdematous, and its veins turgid. Temperature the same as that of its fellow. Sensibility to external impressions is lessened; but he complains of most severe pain along the inner and front part of the leg, from the knee to the foot, and this is much increased by exposure to cold. There is no discoloration over the aneurism. Heart's action healthy. No signs of aneurism elsewhere. Countenance expressive of great suffering; pulse regular; general health in other respects good.

Ordered to remain in bed; to have an aperient; low diet; and, as he complains of sleepless nights, five grains of Pil. Sapon. c. Opio.

Upon consultation, it was determined—although, from its great size, and thinness of its walls, it was not a promising case—to try compression, which was commenced.

August 18th.—He is much lower than on admission. Nights sleepless from severe pain. The œdema of the leg is very much less. There is an erythematous blush over the lower part of the aneurism, and here it is most tender.

Ordered house diet. To drink as little as possible, and take Potass. Acetatis, 3ss; ter. quotidie.

In commencing the compression plan, much attention was paid to details. The sheets and blankets were sown to a firm mattress, which, again, was

secured to the bed-stocks. A foot-board, with a pillow, were added as a support for the left foot, and a firm cushion fixed for the right leg to rest upon.

The thigh and pubes were shaved, and well sprinkled with flour; this last was done several times each day. Ward's aneurismal compressor was applied to the femoral, about five inches below the pubis. This to be alternated with pressure, made by means of a four-pound weight on a tourniquet pad, applied to the groin. A large cradle was placed over him, and he was instructed how to govern the pressure, which was not to be carried to the extent of wholly stopping pulsation in the aneurism.

Seven hours after its application, the limb was œdematous. He had kept the pressure up nearly the whole of the time, but the instrument had repeatedly slipped. He expressed himself as feeling much easier when the pressure was over the artery, and is most anxious to carry out the instructions given. The compressor was re-applied; the four-pound weight to the groin to be substituted for it at bed time. At his request, an opiate was given.

19th.—Has slept about four hours, and had the four-pound weight on at intervals to about the extent of half the night. Complains of pain down the shin-bone, and a sensation of pins and needles in the foot. Says he has less pain than when admitted. Pulse strong; there is some febrile excitement. He wore the instrument about nine hours during the day, changing it for the weight, the thigh being rather tender from the pressure of the clamp.

20th.—Rested badly, but kept the weight on most of the night, as it does not give him much pain. He cannot bear the clamp, the thigh being so tender. There is a good deal of œdema of the leg. Pulsation in the aneurism not quite so strong. Pulse quick and irritable; urine scanty; bowels constipated.

Ordered a dose of calomel and colocynth, with an aperient draught four hours after; only to wear the weight, and that at intervals of an hour.

21st.—Passed a restless night. There is œdema of the leg, and much pain; and a swelling is seen on the inner side of the knee, which pulsates. Wore the weight most of the night. Pulse 100, irritable.

Compression to be stopped until night, and the leg bandaged.

Rk Sodæ Tart., ʒss;

Tinct. Digitalis; Sp. Æth. Nitrici, aa, mxv;

Aquæ, ʒj;

Ft. haust. 3tiis horis sumend.

22d.—No sleep. Had the weight on for an hour at a time, with intervals of half an hour. Œdema of leg less, but the swelling on the inside of the knee much increased; pulsates strongly; is painful and tender.

There is diminished sensibility of the foot. He describes a burning feeling from the knee to the foot, and thought in the night he had lost part of his leg. Pulse quick and irritable; tongue furred; great restlessness. It was now feared that the aneurism would run on to suppuration. Compression to be given up, and the artery tied on the 24th, if the irritative fever be less.

The artery was tied at the time mentioned, and the patient went on well, as it seemed, until the 27th, when symptoms of gangrene made their appearance in the leg. Amputation at the upper third of the thigh was performed on the 31st, but the patient continued to sink, death happening thirteen hours after the operation, and being determined, or at least hastened, by a secondary hemorrhage, which had taken place about two hours previously.

4. *Mr. Teale's Case*.—September 10th, 1854.—William Haley, of Bawtry, æt. 35, a coachman in a gentleman's family, was admitted into the Leeds

Infirmiry, on account of an aneurism of the right popliteal artery. He is a thin person, of middle stature, rather pale, of a tranquil and somewhat feeble circulation, of good general health.

About four months ago, he was standing in a cart, having the right ham resting on the edge of the cart, and the leg hanging over outside. While in this position a box of books fell upon the knee, and violently pressed the ham against the side of the cart. This accident was followed by pain and stiffness in the knee. In two months afterwards, a small, pulsating tumour was felt in the ham, which steadily increased until the present time. It now feels about the size of a hen's egg. The circumference of the affected knee is 15 inches, that of the sound knee, $13\frac{3}{4}$ inches.

12th.—Mr. Teale ordered compression to be made in the course of the femoral artery by means of Signorini's tourniquet; the pressure to be discontinued at nights, and to be occasionally intermitted for short periods during the day, and to be practised to such a degree as greatly to mitigate the force of the circulation, but not absolutely to arrest pulsation in the aneurism; the seat of pressure to be frequently varied in the course of the artery. The patient to have meat daily, without beer, and to be kept in bed.

15th.—Pulsation much diminished, and the tumour smaller. He feels much easier.

19th.—Tumour smaller and firmer; circumference of knee, $14\frac{1}{2}$ inches.

24th.—Tumour much smaller, feeling perfectly solid. A very slight pulsation may be felt in the course of the tumour, but it is doubtful whether this pulsation is in the aneurism or in a small artery passing over its surface. For greater security, in this state of doubt, the pressure is directed to be continued a few days longer.

26th.—It is now evident that the slight pulsation felt on the 24th was due to an arterial branch in process of enlargement, and not to the aneurism, which may, therefore, be considered as cured on the 24th, or twelve days after the commencement of the treatment. The pressure is now to be discontinued.

The following table, accurately recorded by the patient, shows the duration of the pressure each day:—

Sept. 12th	.	.	.	9 hours.	Sept. 20th	.	.	.	13 hours.
" 13th	.	.	.	12 "	" 21st	.	.	.	13 "
" 14th	.	.	.	13 "	" 22d	.	.	.	13 "
" 15th	.	.	.	12 "	" 23d	.	.	.	13 "
" 16th	.	.	.	$12\frac{1}{2}$ "	" 24th	.	.	.	13 "
" 17th	.	.	.	$12\frac{1}{2}$ "	" 25th	.	.	.	13 "
" 18th	.	.	.	13 "	" 26th	.	.	.	$6\frac{1}{2}$ "
" 19th	.	.	.	13 "					

5. *Mr. Stubb's Case.*—Michael B—, æt. 36, a strong, healthy-looking Irishman; admitted into the Liverpool Infirmary on 3d of October.

The patient is a plasterer-labourer, and has frequently been employed to carry weights up and down stairs. About three weeks ago he perceived a stiffness in the left leg; this stiffness continued, and was felt most at night and in the morning; after a little exercise it subsided. At the end of the first week after the commencement of the stiffness, he experienced pain in the leg, and increased inability to move it. The pain has continued, more or less, up to the present time; it has been most severe at night, and sometimes such as to prevent him sleeping. About the same time that he felt the pain, he perceived a throbbing in the ham, and found a tumour existed there. He thinks there has been no increase in the size of the tumour since he first discovered it.

There is a slight œdema of the left leg; in the left popliteal space there is a distinct, firm, and hard tumour, about the size of an orange; there is distinct and strong pulsation felt all over the tumour, and a loud *bruit de soufflet* heard over every part of it. Pressure on the femoral artery stops the pulsation; pressure on the tumour diminishes its size, and causes pain. The heart sounds are normal; pulse strong, 72.

The patient was put on low diet; the thigh was shaved; and the leg, being bandaged from the toe to above the knee, was placed on a pillow. On October 3, pressure of the femoral artery at the upper third of the thigh was commenced, the horse-shoe tourniquet being applied for four hours. From this date up to the 21st, pressure was kept up alternately with the clamp and horse-shoe tourniquet, the site of the pressure being frequently changed. It was found, however, that, when left, the patient would unscrew the instruments, and he complained much of the pain they produced. An opiate was administered at night, and occasional doses of Pulv. Jalapæ Co. were given, low diet being still enjoined. On the 18th, it was observed that the pulsation of the tumour was less, and the leg could be more easily flexed. On the 19th, the leg was placed on a double inclined plane, being carefully bandaged from the toes, and a pad placed firmly in the ham.

21st.—An artery can be felt pulsating at the inner side of the patella. In consequence of the pain produced by the instruments hitherto used, a Carte's tourniquet was substituted for them to-day.

22d.—He complains of no pain from the application of the tourniquet, and says, in every respect, he feels much easier than before. To take 4-ounce meat four times a week.

24th.—The pressure on the artery is kept up constantly; the pulsation in the tumour is considerably less; there is no œdema of the leg nor turgescence of the veins.

26th.—Pulsation diminished; tumour smaller; an artery is felt pulsating on the posterior and outer side of the tumour; the pulsation of the artery on the inner side of the patella has increased; tourniquet kept constantly applied, the position of the pad being changed from time to time; he is able to bear the pressure of the instrument for a whole day on one spot without pain; leg still kept on double inclined plane; there is no irritation of the skin.

31st.—No pulsation in the tumour; that of the anastomosing vessels about the knee more distinct; tumour decreasing in size.

Nov. 2.—Leg taken off the double inclined plane; the tourniquet was kept applied so as slightly to control the circulation till the 5th, when it was removed.

On the 17th the patient was discharged quite well, and able to walk about as usual.

6. *Mr. Ferguson's Case.*—This case was treated in King's College Hospital in autumn last.—A. B., aged 22, married. She always enjoyed pretty good health. The first symptom of her disease occurred twelve months ago: this was pain, confined to the popliteal space of the left leg; she could assign no reason for its coming on, as she never had any accident to that leg. The pain, which has lasted to the present time, occurs in paroxysms of variable length, sometimes lasting for a whole day, and at other times not an hour, and accompanied with intervals of perfect ease. The pain is always aggravated by exercise, or by merely extending the leg. It has never been bad enough to prevent her following her ordinary occupation. Soon after its first occurrence, she noticed a hard, throbbing tumour, the size of a hazel-nut, in the centre of the ham; it was not tender to the touch, although it seemed

to be the seat of the pain. It has remained almost unchanged since its first appearance; the only alteration that has taken place is a trifling increase in its size. It is quite firm and pulsating. Pulsation is completely arrested, if the superficial femoral be compressed. A bruit is heard on applying a stethoscope to the tumour.

Mr. Ferguson applied the Carte's compressor to the common femoral immediately below Poupart's ligament, regulating the force to such a degree as to keep up an amount of pressure just sufficient to stop the pulsation in the tumour. It was continued for twenty hours, when some uneasiness being complained of, it was omitted for an hour or two, and then re-applied. On the third day the pulsation was not so full or throbbing as before. On the ninth day the pressure was modified to such an extent, sufficient to weaken, but not completely to arrest, the flow of blood into the artery. On the fourteenth day, the woman not feeling at all well, all pressure was removed for a few days. On the nineteenth day it was re-adjusted, but, in the evening of that day, the pulsation in the tumour became feeble in a marked degree, and some slight pain was complained of in the ham. On the twenty-first day all pulsation had completely ceased, and the tumour was found diminished in size, and of considerable hardness. It was now evident that a cure was effected; and no return of the disease has as yet shown itself.

The most interesting point in the treatment of this case is the rapidity and easiness with which this disease was cured; and it also well illustrates the fact, that it is not always absolutely necessary to make continuous pressure on the artery for any length of time.

7. *Dr. Collis' Case.*—Christopher Toole, æt. 32, by trade a nailer, a tall, athletic man, of dark complexion, presented himself among the extern patients at the Meath Hospital, on Monday, July 24, 1854, with a pulsating tumour on the upper part of the right thigh. This tumour was $4\frac{1}{4}$ inches long, and $5\frac{1}{2}$ wide; the circumference of the limb over the centre of the tumour was $21\frac{1}{4}$ inches, that of the corresponding part of the sound limb being $18\frac{1}{2}$. It occupied the upper part of Scarpa's space; its upper margin was in contact with the depression which marks the position of Poupart's ligament, and it extended downwards along the course of the common and superficial femoral vessel. The pulsation was very strong and diastolic, and the action of the artery above it was so forcible as to lead some persons to conclude that it was considerably dilated; by pressing upon the abdomen firmly, we could trace the pulsation in the external iliac for a distance of nearly four inches. The superficial veins of the thigh were remarkably large, knotted, and tortuous; the glands in the groin were somewhat swollen; and upon the outer aspect of the tumour, two glands could be felt, elongated and flattened, and partially sunk into it; the entire limb was enlarged, slightly œdematous, but of natural temperature and sensibility. There appeared to be some solidification of the tumour on its outer margin: subsequent observation showed this to be at least partially deceptive, and resulting from the varicose condition of the veins on the internal side. Pressure upon the artery in the groin readily checked all pulsation, but without any sensible effect upon the volume of the tumour. No bruit de soufflet was audible in any position, nor was there any fremitus; the whole arterial system was excited, and the man complained greatly of the throbbing; even the momentary pressure of the thumb upon the artery gave him great relief. He stated that his general health was good, and that for the last two years he had been temperate; his occupation rendered stooping necessary, and also constant rotation of the body at the hips, the feet being kept unmoved. The floor of his workshop was uneven, and his right foot had for some weeks rested habitually on a

lower level than the left. The tumour made its appearance, as far as he was aware, spontaneously, about six or seven weeks before his application at the hospital: it was then about the size of a nut, and had ever since grown steadily larger.

Tuesday, 25th.—After administering purgatives, &c., compression was attempted; various instruments were tried, by none of which could the artery be commanded, even partially, for more than a minute or two. The only point available for pressure was just above the sac, at the spot where the epigastric and circumflex vessels are given off. As the brim of the pelvis is rounded just at this place, all the instruments were displaced by the ordinary respiratory movements, and slipped off the artery; a relay of pupils kept up pressure, sometimes by the finger, and sometimes with the clamp or leaden weight; but it was partial and irregular, in spite of the greatest vigilance and anxiety on the part of all, including the patient himself. Low diet was strictly enforced, and purgatives of croton oil were occasionally exhibited. Quiet was procured by opiates. Chloroform was administered once, but produced excessive headache. An attempt was made to draw some blood upon the second day, but it was thick and carbonaceous, and would not flow. On Saturday, after upwards of four days' ineffectual attempts at compression, the skin in the groin began to chafe and suppurate round the root of every hair, and it became evident that pressure could not be borne much longer; the aneurism had increased half an inch outwards and downwards, and the pulsation was as violent as before, compared with the general force of the circulation; no attempt at consolidation had taken place, and all parties were inclined to be disheartened.

On Sunday, the 30th, I determined to make another effort to command the vessel completely. Having procured a double clamp tourniquet, which closed by a screw at the hinge, I applied it, placing a small roll of bandage an inch thick under the pad. I screwed it home, and found that it controlled the pulsation for a moment, and, like all the rest, slipped off towards the abdomen. By screwing it a little tighter, and drawing it downwards by a tape from the knee, I was enabled at last to get the artery completely controlled. Before finally adjusting it in this position, I drew up the skin, so as to get an unchafed part under the pad. The tourniquet was not disturbed for thirty hours, and at the end of this time, upon slackening it, all pulsation was found to have ceased in the tumour and in the artery as high as it had been traced before, namely to the spot where the common iliac bifurcates.

About twelve hours after the tourniquet was applied, the man felt a stinging pain on the inside of the knee and leg, and a kind of tingling sensation along the outside of the hip and thigh. While under pressure, he took a couple of sedative draughts, containing half a drachm of chloroform.

The spot of skin where pressure had been first attempted was beginning to slough in points, but in a few days it became healthy. The tumour became a little smaller in the first few days, although the subsidence of venous congestion and œdema gave it a more prominent appearance. He never had the smallest pain nor single bad symptom after the removal of the clamp; and upon the 12th of August, he got up and walked about the ward.

On the 16th, he left the hospital, and returned almost immediately to his work, having been in hospital twenty-three days; nor would it have been necessary to keep him so long but for the slough of the integument caused by the first abortive attempt at compression. I saw him on the 6th of October, and found the tumour reduced very considerably in volume; the difference between the circumference of the two limbs was less than one inch.

There are some points of general interest in the last case to which Dr. Collis is wishful to draw attention. These are:

"1st. The position of the point of pressure as regards the sac and as regards the collateral branches. The artery was compressed close to the sac; the point of pressure covered the usual origin of the superficial circumflex ilii and epigastric vessels, the latter of which could be felt pulsating before treatment was commenced; hence the nearest collaterals were practically the internal iliac on the one side, and the profunda on the other, and pressure was thus made between the sac and one of the next collateral branches.

"2d. The fact that under these circumstances the aneurism increased in size, as long as pressure was incomplete, and upon the artery being completely controlled, coagulation was rapidly obtained.

"3d. The simultaneous blocking up of the artery above the point of pressure, as high as the next collateral branch.

"4th. The non-occurrence of secondary aneurism, or of suppuration of the sac.

"5th. The bearing of this case upon the question of pressure at the distal side."

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"This case seems to suggest the possibility of curing aneurism by distal pressure, under favorable circumstances. If we can effect the consolidation of an aneurism by converting it into a *cul de sac*, there is reason to believe that, with due regard to preparatory treatment, this result might in some cases be obtained by choosing a spot between the sac and the distal collateral branch as the seat of pressure. We see in this case that not only the sac was filled up, but the artery also, which was exposed to the pulsatile wave of blood. When pressure is made on the distal side of an aneurism, we observe an increase of impulse for a few moments. If the pressure is *complete, and firmly kept up*, this momentary irritation subsides, and the aneurism pulsates with perhaps less force than before. This principle of converting the aneurism into a *cul de sac* appears to act occasionally in compression at a distance. Dr. Carte, who has had great opportunities of observing the various phenomena which arise during the cure of aneurism, has stated it to me as his conviction that many, if not all, of the rapid cures are effected by a loose clot blocking up the distal portion of the artery. Certainly we can scarcely conceive it possible that a cure which occupies seven, ten, or even thirty or forty hours, could be effected by the slow process of a deposit, layer by layer, until the sac is filled. We see, also, that a similar result has been obtained purposely by manipulation of the sac, a process which is too dangerous to be other than exceptional in application. From all these circumstances, therefore, I think we may infer the probability of distal pressure being occasionally useful; it is at least worth a trial, where the position of the sac prevents our using the ordinary method; and if we can get a point for compression between the sac and the nearest collateral branch, I think the result of the case which I have now put upon record will give us encouragement, although indirect, to hope for success."

ART. 60.—*The treatment of Varices and Aneurisms by galvanopuncture.* By Dr. STEINLEIN.

(*Zeitsch. der G. der Aertze*, Wien, 1853; and *Medical Times and Gazette*, Dec. 16, 1854.)

Baumgarten and Württemberg, after the fact announced by Schuh, that coagulation is produced more promptly at the positive than the negative pole, instituted experiments upon the action of the poles taken separately. They obtained the following results:

1. If the negative pole was introduced alone into a vessel, the positive being applied against the neighbouring parts, there was no coagulation. 2. The two poles introduced into the vessel produced slow, feeble, and rarely complete coagulation. To turn these results to use, it becomes necessary to inquire—What is the action of the poles upon albumen, fibrin, &c.? M. Steinlein has undertaken this, employing Grove's battery, with poles of platinum and zinc; the first positive, the second negative. The experiments upon albumen gave the following results: 1. If two conductors of platinum are plunged into a solution of albumen, no coagulation is produced, and test-paper shows no re-action. 2. If the platinum needle of the positive pole is replaced by one of steel, little bubbles are disengaged from the negative pole, forming a thickish layer; the reddened test-paper, applied to the platinum needle, becomes blue; the steel needle at the positive pole becomes slowly covered by coagulated albumen, with no disengagement of bubbles. This needle also becomes bromo-coloured. 3. If a zinc needle be used, instead of one of iron or steel, the coagulation is much more rapid.

It follows, from these experiments, that the coagulation of albumen takes place only at the positive pole, and that the coagulating force varies according to the nature of the metal employed. The author then endeavours to explain these results according to physical and chemical laws, and he advises, in acupuncture, that the steel needles should be superseded by those of zinc, or rather by needles covered by a layer of this metal. The galvanopuncture should then be practised in the following manner: A certain number of needles, connected with the positive pole of a galvanic battery, are inserted into the tumour, whether the sac of an aneurism or the cavity of an aneurismal varix. The negative pole should be supplied with a plate of platinum, which must be put upon the skin adjacent to the aneurism, after having augmented the conductivity of the epidermis by moistening it with a saline or acidulated solution.

ART. 61.—*A new Hæmostatic Agent.*

By M. ARMAND, Surgeon in the French Army.

(*Medical Times and Gazette*, June 20, 1854.)

While the eau Pagliari was being subjected to experiment as an hæmostatic agent, M. Monsel, attached to the Army of Occupation in Italy, proceeded to a chemical analysis of this fluid, the composition of which was still secret. From his first trials, the re-actions

made evident the presence of the sulphate of alumina and potash, associated with an organic matter, the odour of which resembled that of vanille. M. Monsel then thought that, on treating the balsam of Peru—which, as is generally known, possesses a strong odour of vanille—with the subcarbonate of soda, and throwing the residue of the treatment into a solution of cubic alum, he could obtain an alum charged with a principle identical with that of the analysed water. This having been verified, he determined to test by the same treatment the resin of the gum benzoin, and the balsam of tolu. The results being the same, he came to the conclusion that the unknown fluid consisted of benzoic acid dissolved in alum. Having formed an hæmostatic agent in his opinion similar to the eau Pagliari, he proceeded to test its coagulating power experimentally. On the 27th of last May, he and M. Armand, accompanied by MM. Renard, Monier, Doin, and Bennet, went to the quarter of the Gate of the People, to the Infirmary of M. Broquet, Veterinary Surgeon to the 3rd Regiment of Artillery, who, having a glandered horse about to be killed, had given it, *pro salute hominum*, for the experimental purposes required.

Application of the Hæmostatic Agent prepared by M. Monsel to the Facial Artery of a Horse.—Experiment 1. The animal having been shackled and thrown down, the left facial artery was exposed on the inferior maxilla in front of the masseter, and was opened by a longitudinal incision of four and a half lines. The arterial jet having filled several glass tubes, each holding about half an ounce, a sponge soaked in the hæmostatic agent was put upon the wound, and held there by tight compression. The imbibition was often renewed during a quarter of an hour. The hæmorrhage recommenced when the compression was relaxed. It being thought that the violent plunges of the animal interfered with the success of the experiment, the sponge was introduced under the integument, which was then tied over it by sutures; the animal was raised, and the head tied high to a manger. From this moment no further bleeding ensued.

The blood in the glass tubes.—Into the tubes, before the addition of the blood, there had been poured half an ounce and ten minims of both the eau Pagliari and of Monsel's liquid. Coagulation took place equally rapidly in the two sets of vessels.

Employment of the same fluid on a Dog.—Experiment 2. Having ascertained on the day following (May 28) that the hæmorrhage was definitively arrested in the horse, whose head was still maintained in the same position, a large superficial wound was made in the inner part of the thigh of a middle-sized dog. The solution, applied by means of a sponge, formed a clot in ten minutes; and, by the tight adjustment of a circular bandage, the hæmorrhage was definitively arrested.

A few minutes afterwards, a large and deep incision was made into the right thigh of the same dog, and a profuse flow of blood in jets issued from the femoral artery. The hæmostatic agent was applied to the gaping vessel directly by means of a tube; but it failed to arrest the bleeding. Compression was then made at the bend of the thigh upon the vessel, and the soaked sponge, held to the wound,

sufficed, as in the former trial, to stop the flow of blood in ten minutes. A tight bandage was applied, and the dog was permitted to rise. The animal licked its wounds, and crouched under the table; but there was no return of the hemorrhage, as was half expected by those about. The day following (29th) the dog was alive, to the great surprise of all; and it was seen, from the spot where he lay, that no bleeding had taken place during the night. M. Renard then exposed and opened the carotid artery, and treated the wound in a similar way with equal success.

Autopsy of the Dog.—The animal, whose exhaustion was extreme, died, and was examined. The end of the femoral artery (which vessel had been completely cut through) was obliterated by a plug of coagulum, of red colour, and two and a half lines long. In the neck, an oval red clot, the size of a nut, was implanted by a pedicle into the carotid artery; this pedicle extended upwards and downwards for some extent within the vessel. The prolongation towards the brain was in the form of a T.

The carotid artery was opened and simply plugged in another dog. Hemorrhage was temporarily arrested by these means; but, owing to the movements of the animal, the wound re-opened; the bleeding recommenced, and terminated fatally. Upon examination, no clots were found in the wounded vessels.

Continuation of the experiment on the Horse.—On the fourth day the dressings were removed, and there was no return of bleeding, no functional disturbance.

June 9.—The animal was killed. The facial artery was obliterated, but was found, together with the vein, the nerve, and Steno's duct, imbedded in a quantity of lardaceous matter, the result of the glands, which had been preceded by farcy. The other morbid changes were, thick white pus in the left frontal and maxillary sinuses; hypertrophy and ulceration of the mucous membrane in those sinuses; ulceration of the pituitary membrane of the same side; miliary albuminoid tubercles in the lungs, the spleen, and the liver.

Employment of the same liquid on Man.—Hôpital St. André; service of M. Jaquot.—Experiment 4. Profuse hemorrhage having flowed from the recently cut edges of an old ulcerated bubo in the groin, M. Geoffroy tried in vain to arrest it by means of the ordinary compress. A pledget of charpie, soaked in the hæmostatic liquid by M. Monsel, and placed upon the part, instantly and definitely stopped the bleedings.

Two similar and equally successful trials were made also by M. Renard upon patients in the same hospital.

M. Monsel is pursuing his investigations still further, with an energy which does him infinite credit. Upon adding ten grains of tannic acid, and a scruple of alum deprived of its iron, to an ounce and a half of rose water, he obtained a fluid very efficacious in coagulating the blood issuing from an open vein.

ART. 62.—*How to arrest Hemorrhage from a burst varix.*
By Mr. ADAMS, Surgeon to the London Hospital.

(*Medical Times and Gazette*, Dec. 16, 1854.)

In these accidents the bleeding is from the *proximal* end of the vein. The valves between the injured spot and the heart are either imperfect or absent, and the coats of the vessel having given way, there is nothing to bear the column of blood above the part. Bleeding must continue, therefore, so long as this column continues to press upon the wound; and it must cease if *the leg be elevated*. These remarks were made recently at a bedside in the London Hospital.

(E) CONCERNING FRACTURES AND DISLOCATIONS.

ART. 63.—*Ununited Fractures, &c., treated by subcutaneous drilling of the ends of the bones.* By Dr. BRAINARD.

(*Trans. of American Medical Association; American Quarterly Journal of Medicine*, Jan., 1855.)

The object of this essay is (1) to establish by experiment the principles upon which the treatment of ununited fractures should be conducted; and to show that these principles are applicable to the human subject. 2. To propose a new method of treatment for certain deformities which result from true ankylosis, union of fractures in an angular position, rachitic curvature, &c.

The essay is divided into three parts. 1. Experimental researches on the effects of foreign bodies when allowed to remain in contact with the osseous tissue, and on certain wounds of the bones. 2. Treatment of united fractures by subcutaneous perforation of bone, with cases; and, 3. Treatment of deformities of the bones by subcutaneous perforation, with experiments.

From the facts detailed in the first part, Dr. Brainard considers that the following deductions are fully justified:

“1. Foreign bodies of every kind, placed or allowed to remain in contact with any part of a bone, in a manner to keep up suppuration, produce absorption of it, and have no tendency whatever to give rise to the production of callus. The use of setons, pegs, wires, and foreign bodies of every description, as a means of promoting the formation of callus, is a practice not founded on correct principles, and is often dangerous. The seton is more properly employed for the purpose of dividing a bone, or keeping up a false articulation, than for uniting it.

“2. Sequestra and foreign bodies imbedded in bone, may be brought to the surface when, by perforation or otherwise, instruments or ligatures can be so attached to them as to draw them permanently, with but a moderate degree of force, in that direction. As soon as they press against the living bone, they cause its absorption in the direction towards which they are drawn.

“3. That power of absorption of bony tissue attributed to the

periosteum and the medullary membrane, exists also in the substance of the bone itself, as is proved by the insertion of pegs into perforations of bone; absorption taking place around them, not only at the surfaces, but at all the intervening points. We have employed the term absorption, in accordance with received usage, to indicate that enlargement of the perforation which takes place around the peg, although it is not certain that the bone is absorbed. It is quite as likely that it is disintegrated by ulceration."

In chapter II, Dr. Brainard inquires into the effects of foreign bodies on the formation of callus. The facts he presents in elucidation of this subject, justify, he considers, the conclusion, that foreign bodies which keep up suppuration, not only prevent the formation of callus to a certain distance around them, but produce absorption of callus already deposited when placed in contact with it. The practical deduction may be drawn, he remarks, that setons, pegs of ivory, &c., are suitable means to be employed for promoting the removal of deformed callus and certain exostoses.

Solutions of iodine injected between the extremities of fractured bones, with a view of producing union, Dr. Brainard has found to act like foreign bodies—to produce inflammation and necrosis, and to prevent the formation of callus.

After a consideration of wounds of bones, and the circumstances in which they give rise to callus, or union without it, and the state of the parts in ununited fracture, Dr. Brainard proceeds to the treatment of ununited fractures. His own plan of treatment, is (by means of an instrument with a point somewhat awl-shaped, but more pointed in the middle, with the view of avoiding as much as possible the formation of chips), to produce wounds of the fractured ends of the bones, transfixing at the same time whatever tissue may be placed between them. After transfixing the fractured extremities and intervening tissue in one direction, the instrument is to be withdrawn from the bone, but not from the skin, its direction changed, and other perforations made in the same manner. Dr. Brainard thinks it better to commence, in most cases, with not more than two or three perforations, in order that the effect produced shall not be too severe. On withdrawing the instrument, collodion is to be placed upon the point of puncture.

"Each of the different parts of the operation is," according to Dr. Brainard, "essential to its success. The division of the tissue situated between the fragments, would, of itself, have but little effect; combined with scratching their extremities, its effect is not great, as we have demonstrated by experiment; but, when accompanied by wounds of the bone, there is a very permanent and efficient action produced, which puts the extremities in a condition to join the soft parts in effecting union. This can be rendered greater by increasing the number of punctures, or using an instrument of large size. The operation is to be followed by the application of suitable splints, or apparatus for the purpose of securing immobility. It should be repeated from time to time, and carried to a greater or less extent, as the effects produced may indicate."

To prevent the danger of the perforator passing too deeply, slipping from the surface of a bone, or injuring any vessel, Dr. Brainard has

devised a means for regulating its action. This can only be understood by a reference to the drawing given of it, and the accompanying description.

Chapter IX, treats of the application of perforation of the bones to the cure of certain deformities, by means of interstitial fracture, or bending. The cases in which it is proposed to apply it are:

"1. Perfect ankylosis by bone, or fibrous adhesions too firm to be separated by moderate force, and where the member is in a position to be useless. In this case its use is recommended with a view of straightening the member, where the original disease has been entirely removed.

"2. Fractures united in such a position as to render the limb useless, or from angularity of the fragments, greatly to incommode the patient. In this case, it is also employed for the purpose of straightening the member, after consolidation is perfect.

"3. Deformity from rachitis, and mollities ossium, where the disease giving rise to the deformity has been perfectly cured.

"4. For the purpose of facilitating the fracture of the femur, and formation of a false joint, in case of ankylosis of that bone with the pelvis.

"The method of applying the treatment will depend upon the object to be obtained. When it is required to weaken the bone as much as possible, in order to facilitate its fracture, it will only be necessary to perforate it several times in one direction, and then, withdrawing the instrument, to repeat the perforation from another point.

"The inflammation thus excited will, in a few days, soften the bone sufficiently to render its fracture very easy.

"If it were desired to effect but a partial fracture, the perforations and weakening should be made mostly on one side, and the same rules followed as in the other case.

"When the object is merely to bend the bone, Dr. Brainard would recommend that the perforations be made at three different points, and repeated from time to time with instruments of smaller size, until the enlargement and softening have thoroughly been effected, and then the gradual application of force, by means of a suitable apparatus, making superficial perforations to soften the surface and prevent the danger of fracture."

In addition to the application of this method, as above described, Dr. Brainard has employed it for simple perforation of bone, in inflammation tending to abscess. In a case of this kind, where the disease was situated on the internal surface of the tibia, below the knee, two perforations gave relief from a violent pain, without giving rise to supuration.

Dr. Brainard lays no claim to originality for the treatment of ununited fractures described by him. He acknowledges that several surgeons have sought to attain the same end; but no one of them, so far as he knows, has "either demonstrated the principle upon which it reposes, or laid down the rules by which it should be performed, or contrived an instrument by which it could be carried into effect with safety and facility." It is his hope that the operation he proposes will be

“regarded as an improvement”—and that, “as an attempt to apply the principles of physiology to practical surgery, it will meet with the favorable consideration of the profession.”

ART. 64.—*Ununited Fracture treated by support and exercise.*—By Dr. SMITH, Lecturer on Clinical Surgery in the Philadelphia Hospital.

(*American Quarterly Journal of Medical Sciences*, Jan., 1855.)

Dr. Smith objects to all the modes of treating this accident at present in use, as founded on a wrong principle. He objects particularly to the idea that absolute rest is necessary to the cure, and thinks that this idea is one very fruitful cause of failure. His plan is to fix the limb in an iron framework, very like those in use for rickety children, having joints to allow the movements of the limbs, and straps and pads to steady the extremities of the broken bones in a proper position. Fixed in this apparatus, he allows the patient to use his injured limb, and the result, he tells us, is that union is effected with much less constitutional and local disturbance than by means of the various plans of treatment at present in use—violent friction, the seton, resection, Dieffenbach's plan, and the rest—while at the same time the patient is less exposed to phlebitis and other risks, he escapes that which is harder to bear than anything else, namely, the confinement.

This plan has been tried in several cases, and with these results :

	Cases.	Cured.	Relieved.	Failed, but able to walk.
False joint in the femur . . .	4	3	—	1
„ „ leg bones . . .	8	7	—	1
„ „ humerus . . .	2	—	2	—
	—	—	—	—
Total	14	10	2	2

Dr. Smith gives the details of several of these cases, and of them the following will serve as illustrations :

CASE 1.—*False Joint in both Bones of the Leg, of ten months' standing, cured whilst walking about, by the use of the Artificial Limb.*—Account furnished by Dr. Wm. Waters, of Frederickstown, Md.—Mr. S——, æt. 35, had received a compound comminuted fracture of the tibia and fibula, on the 4th of September, 1849. The accident occurred from the wheel of a tender to a locomotive passing over the right leg obliquely, about two and a half inches below the knee, comminuting somewhat the tibia and fibula, and piercing the soft parts nearly opposite the injured tibia. The fracture of the tibia was obliquely inwards, about two and a half inches below the insertion of the ligamentum patellæ. In passing my finger into the wound (it could be introduced opposite the spine of the tibia, and carried around the face to the under surface of the bone), some comminution of the fracture could be ascertained in the lower shaft, but there was very slight displacement of the ends, as one slab or piece, which could be felt depressed slightly beneath the lower shaft, was raised with my finger to its place. The foot was of the natural temperature five hours after the accident; the dorsalis pedis and posterior tibial

arteries were very feebly felt; but his pulse was pretty good and firm, though somewhat enfeebled. He had some fever for a week or more, and suppuration, and a slough about the size of a large pear occurred over the fractured shafts of bone, which resulted in necrosis, exfoliation of the surfaces, and caries of the ends of the bone until April, 1850. In February, the immovable apparatus was applied, and subsequently a carved splint fitting the outside of his leg was fastened by a roller on the entire limb. Injections of nitrate of silver to the tibia were also tried. About twelve months after the accident, a seton was passed between the shafts of the tibia, the fibula having united in the early stage of the case. The leg was splintered for months; the seton was withdrawn, or rather it cut itself out in four weeks, on the principle of Lourme's modification of Physick's plan; this also failed. During November and December, 1850, acupuncture was also used to excite inflammation in the part, the patient's health being good at this time, from previous generous diet and tonics. My patient now became anxious for excision of the fibro-cartilaginous ends. But the pseudarthrosis being near the knee-joint, the loss of bone from the block to be removed would have been at least from one and a half to two inches in width, and would have encroached upon the ligaments on the inside of the knee. I therefore prevailed upon him to try an apparatus like yours in the case reported in Vol. XV, New Series, of the *American Journal of Medical Sciences*, except that it extended some six or seven inches above the knee. As soon as this was applied, our patient, on the 26th of March, 1851 (about eighteen months after the accident), immediately, with a cane, walked across the floor with a pretty firm step. The mobility of the artificial limb at the knee and ankle had otherwise a twofold desirable purpose, as it permitted the exercise of the knee and ankle-joints, the latter having become considerably impaired in motion, from an injury he had sustained about a year previously. In from four to six months the tibia became sufficiently strong to walk without the apparatus, and his ankle also improved. The fractured bone firmly united, and in six months after wearing it, he resumed his situation in the employ of the Baltimore and Ohio Railroad Company. I have not seen him for some time; but am credibly informed by his family, that he has had no occasion to wear the supporter for upwards of a year. Indeed, he might have dispensed with it earlier, but I advised him to wear it as a precautionary measure.

CASE 3.—*Ununited Fracture of the Femur, of five months' duration, cured in seventeen weeks by the Artificial Limb, so that he could walk with only a cane.*—Jno. K—, æt. 40, was admitted into St. Joseph's Hospital in the fall of 1852, under the care of the late Dr. Wm. E. Horner, labouring under a recent fracture of the lower third of the left femur. After being treated, by Dr. Horner, with Dessault's long splint slightly modified, the bone was discovered to be ununited, the amount of callus being very small and permitting free motion at the seat of fracture. Friction of the ends of the bone being freely practised, blisters were applied round the limb at the seat of fracture, and the patient took cod-liver oil freely, with full diet and porter; when, after a few days, the splints were again applied and the limb kept at rest for four weeks. A second examination yet showing no improvement, the limb was carefully bandaged from the toes to the groin, and splints of binders' board applied round the thigh, when he was placed on crutches and directed to walk about as much as possible. When I took charge of the wards, a short time after this, I found him unable to move the limb or bear his weight upon it, but continued the treatment of Dr. Horner for some time longer, whilst the artificial limb was being made. On the 17th of April, the dressing was removed and the motion at the fracture found to be free in nearly all direc-

tions, the limb being shortened nearly three inches, except when extension was practised. The new apparatus being applied, he was at once placed on his feet with crutches, and walked across the floor, putting his foot to the ground and bearing some weight upon it. The apparatus requiring alteration, he was kept in bed for five days, at the end of which time he again applied his artificial limb and walked about the grounds freely, spending much time in the open air as warm weather came on. When the apparatus was removed, after six weeks' trial, there was an evident firmness in the fracture, and on October 3, 1853, seventeen weeks after its second application, the bone was so firm that he was permitted to walk without the splint, and in a few days walked freely with only a cane, and left the hospital. In December, he left the artificial limb at my office, being well able to walk with a high-heeled shoe, the shortening measuring by accurate measurement two inches.

CASE 4.—*Ununited Fracture of the Femur of six months' standing; supuration; great exhaustion; hectic; cured in nine weeks by the use of the Artificial Limb.*—The history of this case is given as furnished me in the following letter, dated May 22, 1854, from Dr. G. Dock, of Harrisburg, Pa:—

"The patient is 28 years of age. It appears his thigh was fractured by the falling of a bank of earth on him, whilst excavating a cut on the railroad. The accident occurred last fall. He was placed under the charge of a physician of this place; but, after he had been under his treatment for *three months*, I was called in to attend him.

"I found him in the following condition; first, his general health much impaired; hectic fever; foul tongue and breath; pulse 115 to 120; irritable; slept but little; no appetite; and a torpid, depraved condition of the excretory system. The leg was in a long poplar box, in a state of extension; the bandaging from the foot up to the thigh very tight, and he suffering much pain. I next took a survey of the limb (thigh), and at once saw it was crooked and much too short. I then applied a tape, and measured the injured limb from the anterior superior spinous process of the ilium to the centre of the patella; then measuring the sound one, I found the fractured limb nearly three inches short. I then removed a mass of sheet-iron splints, about a peck of bandages, &c., &c., from the thigh, and found the bones, as I anticipated, the upper fragment drawn up by the muscles of the pelvis, the upper end of the lower fragment being drawn backwards by the strong flexor muscles of the thigh, thus causing it to pass up under the upper fragment to the extent I have mentioned. I took everything off, placed a nice Scultet's bandage on a padded *double inclined plane*, and flexed the thigh and leg. I then coaptated the bones (which I found ununited), reducing the limb to its proper length very easily, as the muscles were so soft and debilitated as to offer but little resistance. I then adjusted the bandage and placed splints on each side, with an extending point and a buckskin perineal counter-extending band, all working pretty well for some days.

"As I then discovered a spot of *blood* oozing through the bandage, under the calf of the *leg*, I removed the bandage, and found a gangrenous ulcer about as large as a half dollar, and three or four lines deep at this point, the foot and leg being purple, and with a low degree of vitality, several spots existing on the top of the foot and ankle, and threatening to slough soon. I was therefore obliged to loosen everything about the thigh that could obstruct the free circulation, and favoured the suppuration of the leg by gentle dressings and warm fomentations.

"The next morning, the foot and leg were enormously swollen and œdematous, and sloughs were open on the upper and lower sides of the ankle and top of the foot. To these I applied warm poultices of flaxseed meal and yeast,

gave him a grain of opium at night and wine-whey through the day, with an occasional dose of solution of quinine, and a little beef-tea. But it is unnecessary to detail my treatment. I succeeded in saving his leg, and improving very much his general health, and as his thigh was a secondary matter then, and, of course, no deposit of plastic or osseous matter expected under the circumstances, I just retained the limb in as favorable a *position* as possible, and could apply no retentive means on account of the enfeebled condition of his system, his skin bearing scarcely the pressure of the weight of the limb itself, much less any firm splinting, &c. It is now about eight weeks since I first saw him."

The following history was furnished by Dr. Hoyt, the Resident Surgeon of St. Joseph's Hospital, after his admission:

"Michael Neelan, æt. 29, was admitted into the hospital on the 23d of May, with an ununited fracture of the femur. He was at the time in an exceedingly debilitated condition; indeed, was almost in the last stages of hectic. He had little appetite, was extremely emaciated, and had decided night-sweats. His pulse was feeble, and ranged considerably above 100. His tongue was clean, but pale.

"On examining his leg, I found a small ulcer on the under side of the knee, which discharged healthy pus. The leg and foot were enormously swollen; the ankle was nearly ankylosed, and the toes possessed little motion. The muscles of the thigh were excessively attenuated. The bone was fractured at about the junction of the upper with the middle third. The upper fragment overrode the lower, and at the same time the two fragments formed an angle outwards of about thirty degrees. The limb was shortened three inches. There was a complete false joint at the seat of fracture. Moving the limb in any direction gave little pain unless carried to a considerable extent. He was put on good diet, with the use of tonics. His leg was bandaged every day with a flannel bandage; at the same time the joints were freely moved.

"On the 28th of May, as the leg had been much reduced in size, the bandage was discontinued, and Dessault's apparatus for fracture of the femur was applied in order to maintain extension until the appropriate apparatus should be prepared. Dessault's apparatus was continued until the 13th of June, when it was removed, and the flannel bandage reapplied. The foot had become considerably swollen during its discontinuance.

"The suitable apparatus (artificial limb) having been prepared, was applied for the first time on the 19th of June. He was able to walk with a little assistance on the same day. Though still weak and emaciated, his health and appearance have much improved. From the time he commenced walking his improvement was rapid. He acquired new strength and vigour. A mass of callus was gradually formed, uniting the two fragments, until, on the 9th of August, it had acquired sufficient hardness to render it safe for him to walk, with the assistance of crutches, without his apparatus, which had been sent to undergo alterations. During the whole of this period he gradually improved in the facility with which he walked. He at first required two crutches, and even then walked with difficulty; but as he grew stronger, a cane was substituted for one crutch, and then for another. The broken limb measured, on the 19th of August, two inches and a half less than the other. We may certainly hope that, should he continue to improve, he will eventually have a highly useful natural leg in the place of the artificial one, which I firmly believe he would have required but for this valuable apparatus."

This patient soon afterwards recovered the use of his limb to such an extent that I returned him to the charge of Dr. Dock, at Harrisburg.

CASE 5.—*False Joint in the Femur, of twenty weeks' standing, cured in six weeks by the use of the Artificial Limb.* (Report furnished by Dr. R. J. Levis, of Philadelphia.) "The case in which I advantageously applied the apparatus, proposed by yourself, for the relief of pseudarthrosis, was that of an ununited fracture in the upper third of the thigh-bone, occurring in a heavy muscular man aged about fifty-five years, of general healthy appearance, but of rather irregular habits. The fracture had been treated with the long, straight splint; the apposition of the fragments seemed quite correct, and with no apparent shortening; but yet, at the end of about four months, there had evidently no bony union taken place, and there was an unimpeded mobility of the limb in all directions at the seat of fracture. No favorable change, for a month after, taking place in the condition of the parts, and the patient suffering much, and becoming intolerant of the confinement, it was deemed advisable to make use of mechanical support, and, if possible, to place him on his feet. This indication was answered admirably by the appliance constructed by Mr. Rohrer, similar to others which had been previously formed after your direction by him, and fitted to the limb. The patient was at once placed in a walking attitude, and continued for some time moving about with the assistance of a crutch or cane. At this time the fragments had taken a permanent position, overlapping each other, and projecting somewhat outwardly. The limb continued to acquire more firmness, until, after five or six weeks, he was able to dispense with the support of the apparatus entirely, and has now a somewhat deformed and slightly shortened, yet substantially useful limb."

CASE 6.—*False Joint in the Humerus, of six months' standing, relieved, and permitting the use of the Arm in "type-setting."*—From Dr. George Dock, of Harrisburg, I have recently received the following notes of a case of false joint in the humerus:

"A man, about fifty years of age, has been recently presented to me for treatment for a false joint in the left humerus, just above the insertion of the pectoralis major. The history of the case showing that the dressing of the fracture had been very imperfect, I was not surprised at finding a false joint of its character, and doubt whether anything short of a seton or Dieffenbach's pegs will bring about union; but if you can devise an apparatus that will suit him, be kind enough to write to me." The cost of the limb, fifteen dollars, being beyond the patient's means, Dr. Dock writes as follows, October 24, 1854: "My man with ununited fracture of the humerus was unable to purchase an apparatus. I consequently made one for him myself, and he is now at his daily work (type-setting), and bids fair to recover with an united bone."

(F) CONCERNING DISEASES OF THE BONES AND JOINTS.

ART. 65.—*Some statistics connected with Orthopædic Surgery.*

By Mr. LONSDALE, Surgeon to the Orthopædic Hospital.

(*Lancet*, Dec. 9, 1854.)

The following is an abstract of a paper recently read before the Royal Medical and Chirurgical Society, entitled 'An analysis of 3000 cases of various kinds of deformities admitted at the Royal Orthopædic Hospital, Bloomsbury Square, with brief remarks on some of the more interesting points connected with their pathology and treatment.'

This paper is arranged in six divisions :

I. Deformities of the bones and joints of the lower extremities, arising from weakness either in the bones themselves, in the ligaments, or in the muscles—1663 cases.

II. Club-feet—495 cases.

III. Deformities of the spine—465 cases.

IV. Affections of the joints from paralysis—288 cases.

V. Deformities from badly-united fracture—63 cases.

VI. Deformities from arrest of development—16 cases.

Simple bow-legs, or outward curvature of the tibia and fibula, is the most common, amounting to 533. Simple knock-knees occur the next in frequency, being 481. Knock-knees and bow-legs may co-exist as rickets, and produce a very great amount of deformity. Bow-legs, with outward curvature of the femur, number only 23; bow legs of one side, and knock-knee of the other, may be remedied in early life, but not after the bones have become firm.

Club-feet are divided into—1. *Talipes varus*. 2. *Talipes valgus*. 3. *Talipes equinus*. 4. *Talipes calcaneus*. To one form of *talipes equinus* he gives the name of rheumatic, because that disease causes contraction of the muscles of the calf.

All cases of *varus* require the division of tendons—viz., the *tibialis anticus* and *posticus*, the *tendo Achillis*, and the *plantar fascia*. In *talipes valgus*, the *extensor communis* and the *perones* must be divided. In *talipes equinus*, the *tendo Achillis* offers the obstacle to replacement. In *talipes calcaneus*, the treatment is effectual only in those cases (congenital) where the deformity arises from spasm of the muscles in front of the leg. When paralysis of the muscles of the calf exists, the relief is partial.

Deformities of the spine are divided into—lateral curvature, 173; posterior curvature, 70; latero-posterior, 29. Abscesses form when carious disease attacks the lumbar vertebræ, but not in the higher regions of the spine. Lateral curvature may depend upon disease of the thoracic viscera. Joints may be permanently contracted by the action of surrounding muscles; the hip is most frequently affected. Wry-neck often causes alterations in the expression of the features. Deformities may arise from fractures badly united; the number amounted to 31. The author had seen some cases of *spina bifida* in the hospital; also some of curvature of the legs, from excessive development of the adipose tissue in young children.

ART. 66.—*On subcutaneous Osteotomy*. By Dr. P. FRANK.

(*Medical Times and Gazette*, Dec. 16 and 23, 1854.)

In these papers, Dr. Frank chiefly occupies himself in explaining the process of sub-cutaneous osteotomy, which has recently been introduced by Professor Langenbeck, of Berlin, for the cure of various osseous deformities of the extremities; and this he does by translating a paper published by Professor Langenbeck, a few months ago. It is, therefore, Langenbeck who speaks to us in the first person, not Dr. Frank.

"During the summer term of the present year, I have already performed subcutaneous osteotomy in three cases, and that with results so brilliant and encouraging that I believe myself justified in entertaining hopes that this new operation will supply a desideratum till now often experienced.

"The instrumental apparatus I made use of consists in—

"1. A fluted chisel-drill, two lines in breadth, attached to a centrebit.

"2. A straight saw, $1\frac{1}{2}$ in. in breadth.

"3. A common strong scalpel.

"The operation having till now only been performed on the tibia, the execution was in all cases much the same.

"An incision, rectangular with the longitudinal axis of the bone, was made on the internal surface of the tibia, dividing the integument and periosteum at once.

"I then applied the drill in the centre of this incision, and perforated the bone transversely from within outwards. The cessation of resistance safely denotes the final accomplishment of the perforation, so that no danger of injuring the anterior tibial nerve and artery need be apprehended.

"The narrow saw is now introduced into the aperture drilled through the bone, and the greater part of the latter divided, by sawing, both in the direction of the crista or towards the posterior surface of tibia, without any further enlargement of the wound in the soft parts.

"The bone is directly straightened by fracture of the remaining osseous bridges, or this proceeding can be deferred till the consecutive inflammation and suppuration have subsided. In the first two cases, I followed the first plan, indulging the hope that the wound of the integuments would heal without suppuration; but, after having experienced that this could not be expected, I performed instantaneous fracture in the third case.

"Further observation will have to decide on the comparative merits of these proceedings; at present I am inclined to far prefer the latter.

"Two reasons have induced me to divide only a part of the bone by the saw; the first is the great difficulty which the small wound of the integuments would oppose to perfect division; the second and more important one is, that the great mobility of the fragments necessarily resulting after perfect division by the saw, is avoided by consecutive gradual fracture, which will always allow small osseous bridges to remain intact, rendering the fracture imperfect.

"Experiments and future experience will yet have to show the extent of the subcutaneous division of the bone necessary to permit of easy fracture of the remaining parts.

"In the third case which I operated upon, this act was attended with great difficulty, a powerful effort being required to fracture the hard and voluminous callus.

"This procedure will no doubt be rendered easier of execution, if the bone is perfectly divided from the centre towards the concavity of the curve, instead of allowing bridges to remain on both sides, as I have done till now.

"As to the local and constitutional effects of the operation, they

are so insignificant, that subcutaneous osteotomy cannot be compared with a resection of bone, exposed by a large external wound. The pain experienced directly after the operation, and the febrile re-action, are scarcely more considerable than after simple fracture.

"Three or four days after the operation the soft parts around the wound are slightly inflamed and painful on pressure.

"Closure of the wound by first intention happened in none of the cases operated upon, suppuration supervening from the sawn surfaces of the bone.

"In the second case the discharge was not inconsiderable, and a fortnight elapsed before it subsided.

"Suppuration ceases as soon as the drilled canal and the saw-wound are filled with granulations; the external wound is then rapidly closed, and the bone is in the same condition as in consolidatory simple fracture.

"I regard it as no inconsiderable advantage connected with this operation, that, whether it be performed to straighten a bone after falsely united fracture, or a curvature of the bone after disease, or an osseous ankylosis, the normal position need not be perfectly restored at once, but can be gradually effected during the consolidation of the bone; thus rendering it possible to avoid any undue contusion and laceration of the soft parts.

"From the experience till now collected on the operation, I think myself justified in drawing the following inferences:

"1. Bone can be subcutaneously divided, like tendons and muscles, and subcutaneous osteotomy bears well-nigh the same relation to resection with extensive division of the soft parts, as subcutaneous tenotomy to division of the tendons after dividing the integuments.

"2. Partial subcutaneous division of the bone by the saw is preferable, because perfect mobility of the fragments is thereby avoided.

"Union, by immediate formation of callus, as in simple fracture, cannot be expected after subcutaneous osteotomy, because the small particles of bones detached by drill and saw act as foreign bodies, which must be eliminated by suppuration. I will conclude with a short description of the cases in which I have performed the operation, deferring more accurate statements, accompanied with representations of the deformed limbs to a future period."

CASE 1.—Ann Bolle, æt. 9, of strong, healthy constitution; intellectual faculties but poorly developed. No accurate details can be procured about the development of curvature of right tibia, which took place in early childhood.

Right tibia is curved strongly outwards, so that the foot, following the curve, is directed inwards and upwards, similar to the position in varus. The child supports its weight on external malleolus, the sole of the foot not being able to touch the ground. At the same time, the bones of the leg are rotated outwards, so that the internal malleolus is directed forwards, and the point of the foot everted. The leg is shortened one inch by the curvature.

An attempt at forced fracture, on February 2, proving unsuccessful, subcutaneous osteotomy of tibia was performed on June 7, in the manner above described.

The wound in the integuments, half an inch in length, was closed by two sutures. A considerable arterial hemorrhage, which took place as the bone was sawn, subsided after the cold-water dressing had been applied.

Intense pain in the wound; sleep was procured by an opiate. The next evening, fever, with moderate swelling of the soft parts around the wound, out of which a bloody serum exudes on pressure. The sutures were therefore removed.

On the third day increased swelling and tenderness of the parts, with discharge of thin pus mixed with particles of bone.

On the fifth day a small abscess was formed on the external aspect of tibia, corresponding to the external end of the canal in the bone. The fever now rapidly subsided, a good suppuration is established, and healthy granulations are thrown out.

On the 28th of June the patient incautiously left her bed, and resting the weight of the body on the limb produced a perfect fracture of the osseous bridges, which still remained. A slight hemorrhage supervened, and, on the following day, I performed fracture of the tibia. The leg was now perfectly straightened, and the normal position maintained by splints.

A slight febrile re-action supervened after the operation, but no fresh suppuration took place out of the wound, which was now perfectly filled with granulations. The fragments were, therefore, now rendered perfectly immovable by a starched bandage, which was fenestrated to permit observation of the granulating wound.

A slight suppuration commenced again on the 3d; on the 27th, the wound was perfectly closed; the fragments are united by a soft callus; foot and leg have a perfectly normal position.

“I had an opportunity of examining this case at the end of October last. The leg is perfectly straight; the position of the foot normal; the fragments are firmly united by callus.”

CASE 2.—Johanna Gunther, æt. 5, of strong and healthy appearance, is affected with rachitic deformity of the lower extremities. Both femoral bones and left tibia are slightly curved outwards; but the right tibia presents a considerable curvature forwards and outwards; and the foot is turned inwards and upwards in such a high degree that the child treads, in walking, on the external malleolus.

On the 15th of June, I first attempted to straighten the bone by forced fracture; but, this proving ineffectual on account of the hard state of the bone, I directly proceeded to perform subcutaneous osteotomy.

A transverse incision, half an inch in length, was made down to the bone, on the internal aspect of the tibia, opposite the point of greatest curvature. I then applied the drill at the superior angle of this incision, which was situated two lines below the crest of the tibia, and perforated the bone from inwards outwards. A second perforation was performed in the same direction, half an inch below the first, the drill being applied to the bone at the inferior angle of the incision.

The saw was now introduced into the first canal, and the bone divided down to the second perforation, so that merely two thin layers of bone at the crista and posterior surface of tibia remained undivided.

The hemorrhage was considerable; the wound was closed by sutures, and the cold-water dressing applied.

The patient was feverish on the following day; and the cold applications were continued on account of pain in the wound.

The fever had abated the next day, but the borders of the wound were red and swollen, and bloody serum exuded on pressure.

The wound was dressed with oiled lint, and cataplasms were applied.

Moderate suppuration supervened on the fourth day, and subsequently increased, accompanied with cedematous swelling of the leg.

On the 3d of July, the discharge had perfectly subsided, and the wound threw out healthy granulations.

I therefore proceeded to perform fracture of the remaining osseous bridges, for which a moderate amount of manual force sufficed, two distinct cracks announcing the successive fracture of tibia and fibula.

The limb was now perfectly straightened, and splints were applied. A slight degree of pain, experienced after the operation, soon subsided.

No fresh suppuration supervened, but the granulations became luxuriant, and necessitated the repeated application of the lunar caustic.

On the 17th of July, the wound being nearly perfectly closed, and the bones united by a callus of cartilaginous consistency, a plaster-of-Paris bandage was resorted to, to ensure perfect immobility of the limb.

“In the latter part of October, I had frequent opportunities of examining this case. The external wound was perfectly healed. The bones of the leg were straight; the callus perfectly consolidated; so that the most scrupulous examination could detect no abnormal mobility. The child was allowed to rise, and could walk without pain, the position of the foot being perfectly normal.”

CASE 3.—A. Z—, æt. 35, fractured his left leg in early childhood, very likely in his fifth year. The seat of the fracture was the lower third of the tibia; the fibula was fractured lower down, but both bones were united by a very thick, firm callus. The fragments form a sharp, angular protuberance in the course of the crest of the tibia. The foot is turned backward and inward, with the inferior fragment of the tibia; the angle formed by the fragments of the tibia amounting to 105 degrees. The inferior fragment of the tibia is, at the same time, dislocated *ad longitudinem*, riding on the external aspect of the upper fragment. By this dislocation the limb is shortened two inches; and, although the patient wears a high heel, walking is very difficult and imperfect, particularly on account of the dislocation of the foot backwards.

Of late the leg became so painful and sensitive, even after slight active exercise, that the patient has been obliged to desist from walking, and make use of a chair-carriage.

The patient is of short and slight build, of pale complexion, and shows marks of previous scrofulous affections.

For the last fourteen or fifteen years he has laboured under no serious disease.

On the 4th of July, I performed subcutaneous osteotomy in the Clinic. A transverse incision, half an inch in length, was made on the internal aspect of the tibia; the drill applied in the middle of the wound, and the callus perforated, from inwards, outwards. I then introduced the saw, and divided the bone subcutaneously, allowing an anterior and posterior bridge to remain. This part of the operation was long and difficult, on account of the great thickness and density of the callus. I then proceeded directly to perform fracture of the undivided bridge, which succeeded without trouble. A distinct crepitus was heard, and the bone considerably straightened. I was deterred from strengthening the bone perfectly, by the apprehension that

the integument on the internal side of the tibia, being already tensely bulged out by the callus, might be lacerated.

The extremity was now enveloped in cotton-wadding, surrounded by a flannel roller, and a splint of gutta-percha applied, so that the wound remained accessible. The patient was then transported in a carriage to his residence.

He complained of pain in the wound. This had abated on the following day; but the frequency of his pulse was slightly augmented, and the parts around the wound were red and swollen. A small abscess was formed on the fifth day, opposite the external end of the canal, drilled through the bone, out of which healthy pus was discharged by an incision.

The symptoms of general and local re-action were far milder in this case than in the two former ones,—a circumstance which can most likely be ascribed to the slight fact, that dense callus is not endowed with the same degree of vulnerability as the medullary cavity even of hardened bone.

Suppuration had perfectly subsided on the 18th of July; so that a further attempt to straighten the limb could be made. By this, the lateral curvature of the tibia was perfectly rectified, and the dislocation forwards so diminished, that the fragments formed an angle of 130° .

No renewed suppuration taking place after this operation, it was repeated on the 29th, and the leg rendered perfectly straight.

“On the 2d of November,” adds Dr. Frank, “I had an opportunity of examining this case in the clinic of Professor Langenbeck.

“The left leg is a little longer than the right; it is perfectly straight, and the position of the foot normal in every respect. A most careful examination failed to detect the slightest abnormal mobility, and the patient was able to walk with ease.

“A slight angular projection of bone at the commencement of the lower third of the crest of the tibia constituted the only remaining deformity.”

(G) CONCERNING ANÆSTHETICS.

ART. 57.—*Note on the induction of Sleep and Anæsthesia by compression of the Carotids.* By Dr. FLEMING, Professor of Materia Medica in Queen's College, Cork.

(*Medico-Chir. Rev.*, April, 1855.)

While preparing a lecture on the mode of operation of narcotic medicines, I thought of trying the effect of compressing the carotid arteries on the functions of the brain. I requested a friend to make the first experiment on my own person. He compressed the vessels at the upper part of the neck, with the effect of causing immediately deep sleep. This experiment has been frequently repeated on myself with success, and I have made several cautious but successful trials on others. It is sometimes difficult to catch the vessels accurately, but once fairly under the finger, the effect is immediate and decided.

There is felt a soft humming in the ears, a sense of tingling steals over the body, and, in a few seconds, complete unconsciousness and insensibility supervene, and continue so long as the pressure is maintained. On its removal, there is confusion of thought, with

return of the tingling sensation, and in a few seconds consciousness is restored. The operation pales the face slightly, but the pulse is little, if at all, affected. In profound sleep, the breathing is stertorous, but otherwise free. The inspirations are deeper. The mind dreams with much activity, and a few seconds appear as hours, from the number and rapid succession of thoughts passing through the brain. The experiments have never caused nausea, sickness, or other unpleasant symptom, except, in two or three instances, languor. The period of profound sleep, in my experiments, has seldom exceeded fifteen seconds, and never half a minute.

The best mode of operating is to place the thumb of each hand under the angle of the lower jaw, and, feeling the artery, to press backwards, and obstruct the circulation through it. The recumbent position is best, and the head of the patient should lie a little forwards, to relax the skin. There should be no pressure on the windpipe.

The internal jugular vein must be more or less compressed at the same time with the carotid artery; and it may be thought that the phenomenon is due, wholly or in part, to the obstructed return of blood from the head. I am satisfied that the compression of the artery, and not of the vein, is the cause. The effect is most decided and rapid when the arterial pulsation is distinctly controlled by the finger, and the face loses somewhat of its colour; and, on the other hand, is manifestly postponed and rendered imperfect when the compression causes congestion of the countenance.

This mode of inducing anæsthesia is quick and certain. The effects diminish immediately when the arteries are relieved from pressure, and are not liable to increase, as happens sometimes with chloroform and ether, after the patient has ceased to respire their vapours. So far as my experience goes, it has shown no tendency to cause faintness; and usually, after its employment, no unpleasant feeling whatever remains.

I think it may be found useful as a remedial agent in certain headaches, tetanus, asthma, and other spasmodic diseases, and to prevent pain in such small operations as the extraction of a tooth or the opening of an abscess. Whether the compression can be continued *with safety* sufficiently long to make it available in larger operations, has to be ascertained. But, whatever be the practical value of this observation, it is at least interesting as a physiological fact, and may be the means of throwing light on the causes of ordinary, medicinal, and hypnotic sleep, and of coma. Some facts encourage the supposition that the circulation of the brain is languid in ordinary slumber, and the etymology of the word carotid shows the ancient belief in the dependence of deep sleep on some interference with the passage of the blood through these vessels; and it is not an unreasonable conjecture, that hypnotic sleep may be sometimes caused or promoted by the contracted muscles and constrained position of the neck compressing the carotid arteries, and diminishing the supply of blood to, and pressure on, the brain.

ART. 68.—*On the administration of Chloroform.*

By (1) Mr. SYME, and (2) Dr. SNOW.

1. (*Lancet*, Jan. 20, 1855.)2. (*Association Medical Journal*, April 6, 1855.)

1. In the following remarks (which form part of a clinical lecture), Mr. Syme insists very particularly upon the importance of watching the respiration, and not the pulse, in estimating the effects of chloroform upon the system; and, in this point, his opinion coincides with that of Mr. Clendon, Surgeon-Dentist to the Westminster Hospital, whose paper on the subject will be found in a former volume (vol. XVI, p. 160).

Mr. Syme speaks as follows:

So far as I can ascertain, from what I have heard and read upon the subject, there are important differences between the mode of administration of chloroform here and in London. It appears that here it is given according to principle, there according to rule. There great attention is paid to the number of drachms or minims employed; here we are entirely regardless of the amount used, and are guided only by the symptoms of the patient. The points that we consider of the greatest importance in the administration of chloroform are—first, a free admixture of air with the vapour of the chloroform, to ensure which, a soft porous material, such as a folded towel or handkerchief, is employed, presenting a pretty large surface, instead of a small piece of lint, or any other apparatus held to the nose. Secondly, if this is attended to, the more rapidly the chloroform is given the better, till the effect is produced; and hence we do not stint the quantity of chloroform. Then—and this is a most important point—we are guided as to the effect, not by the circulation, but entirely by the respiration; you never see anybody here with his finger on the pulse while chloroform is given. So soon as the breathing becomes stertorous we cease the administration; from what I have learned, it is sometimes pushed further elsewhere, but this we consider in the highest degree dangerous. Attention to the tongue is another point which we find of great consequence. When respiration becomes difficult, or ceases, we open the mouth, seize the tip of the tongue with artery-forceps, and pull it well forward; and there can be little doubt that death would have occurred in some cases if it had not been for the use of this expedient. We also always give the chloroform in the horizontal position, and take care that there is no article of clothing constricting the neck. There are thus considerable differences between our practice and that which prevails more or less elsewhere. We use no apparatus whatever, take the respiration for our guide, attend to the condition of the tongue, and never continue beyond the point when the patient is fully under the influence of the anæsthetic.

2. Dr. Snow's paper is called forth by these remarks of Mr. Syme. "It seems physically impossible," he says, "that the breathing should not be noticed during the administration of narcotic vapours, for it is by the breath that they are exhibited; and it is extremely improbable

that the state of the respiration has ever been disregarded. Even a stranger to medicine could hardly go on giving chloroform after the breathing of the patient became stertorous and laboured, especially as a state of complete insensibility always accompanies this kind of breathing. In treating of sulphuric ether in 1847, I made the remark that, 'if there is the least snoring, I always leave off the vapour entirely ;'* and, in treating of chloroform, I have always stated that the inhalation should be suspended whenever the breathing becomes stertorous. In doing so, however, I never supposed that I was propounding anything new ; I looked on the matter as one of those truisms that every one would at once assent to, but which could not with propriety be omitted in treating systematically of the subject.

"I have always considered the pulse amongst the secondary symptoms in administering chloroform, not because any serious affection of the pulse would be a trifling matter, but because the vapour should be so given that it would be impossible for it to exert any serious effect on the pulse. After stating, in a paper written four or five years ago, that the most important point in giving chloroform is to take care that its vapour is systematically diluted with a sufficient quantity of air, I said that, the above precaution having been taken, 'it is chiefly by attention to the respiration and the eye that danger is to be avoided ;' and I added, 'The pulse may be felt as a physiological inquiry, or with reference to the operation, but gives no guiding information concerning the chloroform, for the following reasons : when the vapour is diluted to a safe extent, it might be continued till death, as I have ascertained in animals, and the pulse would still beat distinctly for many seconds after the respiration had ceased ; and if, on the other hand, the vapour be of dangerous strength, the heart might suddenly cease to beat, and the first intimation of danger from the pulse would come only too late.' In several of the deaths from chloroform which have since occurred, the pulse, which was carefully noted, ceased suddenly, without giving previous warning of danger.

"When the vapour of chloroform is so diluted that it does not constitute more than four or five per cent. of the air that is breathed, its effects are produced very gradually : and I have ascertained, by very numerous experiments on animals, that when the vapour is continued of this strength till they are killed, the breathing ceases gradually, being first embarrassed and feeble ; and in all cases the pulsations of the heart continue freely for one or two minutes, or even longer, after the breathing has ceased ; the circulation being ultimately arrested in consequence of the absence of the respiration, as in asphyxia. I have satisfied myself of this by keeping the stethoscope carefully applied to the chest of the animals whilst they were dying. During the interval that the heart is still beating after the respiration has ceased, the animal can easily be restored by artificial respiration. It moreover often happens that the animal takes one or two deep gasps just at the moment when the heart is ceasing to beat ; and if the chloroform have been removed, so that fresh air is allowed to enter by these gasps, they usually have the effect of re-establishing the action of the heart, and recovery takes place."

* 'The Inhalation of Ether in Surgical Operations,' p. 38.

Again :—

“From the above facts and considerations, it must be very clear that the most important rule in giving chloroform is to take care that the vapour is diluted to a sufficient extent with air. In administering sulphuric ether, it was sufficient to watch the symptoms in order to prevent danger, although even then a knowledge of the strength of the vapour was a useful guide ; but, with chloroform, the proper dilution of the vapour becomes more important even than the symptoms. However, when the quantity of chloroform that is required to make a patient insensible is diffused through as much air as was occupied by the dose of ether vapour, the one anæsthetic is as safe as the other. The most perfect way of diluting chloroform vapour is to mix it with air in a very large hydrogen balloon. I gave it in this way in several cases of tooth-drawing, in St. George’s Hospital, in 1848, the proportions being four per cent. of vapour and ninety-six per cent. of air ; and the results were very uniform and satisfactory. In practice, however, it is often necessary to sacrifice perfection more or less to convenience. I have, since the latter part of 1847, used an apparatus for the administration of chloroform, which allows me to regulate the proportion of vapour in the air with sufficient accuracy for practical purposes.

“The best criterion that an operation may begin, is the suspension of the sensibility of the conjunctiva. When the free edge of the eyelid can be touched without causing decided winking, the patient will hardly ever show signs of pain from the surgeon’s knife. The chloroform, as I said before, must always be suspended if the breathing becomes stertorous ; but it is seldom necessary to wait for this symptom.

“During the removal of tumours of the jaw, and in other operations on the face, in which the inhaler cannot be applied after the surgeon begins, I apply chloroform on a hollow sponge, first diluting it with an equal quantity of rectified spirit, to limit the amount of vapour given off. Dr. Warren, of Boston, in America, long ago recommended what he called strong chloric ether, which consisted of one part of chloroform and two of spirit by measure. The patient inhales hardly any of the spirit, as the chloroform evaporates first, leaving nearly all the spirit behind. The process of inhalation is not uniform, owing to the varying strength of the solution as the chloroform evaporates ; but this plan is well worthy the attention of those who wish to give this agent with no other appliance than a handkerchief or sponge. Either one or two parts of spirit have the effect of so limiting the quantity of vapour taken up by the air, that no sudden accident could happen.

“The following circumstances show very clearly the influence of diluting chloroform with spirit. The so-called strong chloric ether of Dr. Warren had been employed on a sponge in the Massachusetts General Hospital for three or four years without accident ; when one day a new dispenser handed pure chloroform in mistake for that solution, and two accidents happened in two consecutive operations : one was fatal, but in the other case the patient was resuscitated from a state of suspended animation. The accidents were, no doubt, chiefly

due to the circumstance that it had been the custom to use the diluted preparation more freely than pure chloroform would have been used; still they illustrate equally well the comparative safety of diluted and undiluted chloroform, when used on a sponge or handkerchief.

“Dr. J. Mason Warren has informed me that, since these accidents, the governors of the hospital have prohibited the inhalation of any other agent than sulphuric ether, for preventing pain in surgical operations.”

ART. 69.—*The advantages resulting from the local application of Chloroform Vapour.* By Dr. HARDY.

(*Dublin Medical Press*, Nov. 15, 1854, and Feb. 21, 1855.)

In these papers Dr. Hardy collects together many cases in illustration of the advantages of this practice. These cases he divides into four heads:—

1. Cases in which the vapour is applied to the unbroken skin.
2. Cases in which the cuticle is removed.
3. Cases in which the vapour is applied to unbroken mucous membrane.
4. Cases in which it is applied to abraded mucous membrane.

Under each head are many illustrations, of which we will select the following.

(1.) *Cases in which the vapour is applied to the unbroken skin.*

Under this head we have one case of femoral hernia, two cases of tetanus, one of phthisis, one of neuralgia, one of dysmenorrhœa, several of cholera, two or three of scalp-tumours, one of gout, one of rheumatic gout. In some of these and particularly in the first two, there can be little doubt that the benefits arising from the chloroform were partly if not mainly due to the inhalation of the vapour, much of it escaping into the atmosphere of necessity. But this does not apply to all cases. Thus:

Cholera.—During the last few months instances of diarrhœa have been very prevalent in Dublin. The administration of chloroform in frequently repeated doses of from fifteen to twenty-five drops in a little cold water had a most excellent effect in relieving nausea in those cases, and of imparting a sensation of general warmth; but as the influence exerted by this method of exhibiting it was of short duration, a much more decided and permanent benefit was obtained by applying the vapour by means of a sponge, moistened with chloroform, and placed in a tumbler. This applied over the epigastrium never failed in giving relief, and could be kept on constantly without the least inconvenience to the patients, who very soon became so convinced of its efficacy that they anxiously wished for its continuance. (Care was necessary not to allow the fluid chloroform to touch the skin, as it felt so very hot; this, however, was easily accomplished by using a sponge sufficiently large to fill the end of the glass.)

Gout.—This case is related in the ‘*Gazette des Hôpitaux*,’ 23d September, 1854, by Dr. Renouard.—“On the morning of the 25th

the pain was most intense. It increased during the day, and in the evening wrung cries from the patient, who writhed upon his bed, biting and tearing the sheets. The night passed without the least relief, notwithstanding the internal and external use of narcotics. The foot was œdematous; the skin was tense, and of a shining rose-colour. On the morning of the 26th, having exhausted my resources, and being unable to remain an inactive spectator of such acute sufferings, I proposed the local application of chloroform, which was at once agreed to. Having procured Dr. Hardy's instrument, I commenced at noon the insufflation of the anæsthetic vapours, directing them chiefly to the most painful part. After twenty minutes' application which was twice or thrice interrupted, reducing the real duration to sixteen or seventeen minutes, the patient felt well enough to request its suspension. He did not say that he was free from all suffering, but that he was considerably relieved. The part subjected to the vapour of chloroform had become pale and cold, instead of red and burning, as it had been before. Moderate pressure could now be made without exciting the sensibility of the patient, who so short a time before could not endure the slightest touch. The calm lasted an hour and a half or two hours; the pain subsequently appeared to return, and continued increasing until evening. When I saw the patient again, between eight and nine o'clock, he was suffering much, although less than on the preceding evening; he was particularly apprehensive about the night. At the same time, the central point of the pain had changed its place a little; it was nearer the internal ankle. The anæsthetic vapours were again applied uninterruptedly for fifteen minutes. All suffering ceased; what had been the principal seat of the pain could now be tolerably strongly leant on without the patient feeling it. After a few minutes he fell into a deep sleep, which lasted two hours. On awaking, he experienced merely a feeble sensation of pain, some transitory twitchings returning at shorter or longer intervals, which did not prevent him from taking several other naps in the course of the night. From this day he quickly recovered. The attack was shorter than those of the preceding two years. The resolution of the congestion appeared to be more rapid than usual."

On the foregoing case, the editor of the *Revue Médicale* observes—
 "We cannot, in this case, fail to recognize the beneficial effects of the vapour of chloroform on the intolerable pain of gout; but its influence on the resolution of the œdema, although probable, does not appear to me to be sufficiently proved."

Rheumatic Gout.—On the 26th of October, a gentleman, who had suffered severely from frequent attacks of rheumatic gout, was directed by his medical attendant to have the vapour of chloroform applied to his foot, which was exceedingly painful. Mr. Robertson (the maker of the instrument), by means of the vapour douche, gave a bath of chloroform and warm water vapours combined. In a quarter of an hour he felt perfectly easy. Having dined with a friend, and partaken of champagne, his distress returned; and on the 28th of October the bath was repeated. In three minutes all suffering was removed; and after its use for a quarter of an hour, he said he never

was more free from pain in his life. On the 30th, he had another bath for a mitigated return of the pain, and with equally favorable results.

(2.) *Cases in which the vapour is applied to the abraded skin.*

Under this head we have cases of anthrax, painful ulcers, painful stump, cancer of the mamma, and elsewhere. When the cuticle is removed, either by abrasion, vesication, ulceration, or incision, the vapour of chloroform is enabled to act with much greater intensity than when the skin is unbroken. Whenever it is first brought in contact with parts in this condition, some patients complain of heat, others say it feels cool; in a few minutes a sensation is imparted of ease and freedom from pain, which in some instances is of very considerable duration. The following cases among others are given in illustration:

Case of Anthrax (from Dr. Benson, President of the Royal College of Surgeons of Ireland).—An unmarried lady, æt. about 36, highly nervous, and very impatient of pain, lately consulted me for anthrax, situated on the back of the neck, which was a little ulcerated and most painful. I proposed the inhalation of chloroform, to which she strongly objected, but consented gladly to its local application. The vapour was closely confined to the sore, and first produced a sensation of extreme heat, which was soon succeeded by perfect relief from suffering. A free crucial incision was then made, which did not give her the slightest uneasiness. She said the operation had not hurt her in the least; everything afterwards went on favorably.

Case of painful Stump (under the care of M. Larrey).—After an amputation at Val-de-Grace, the stump having become excessively painful, M. Larrey made use of Dr. Hardy's apparatus, the result being, that the pains were soothed as soon as the vapour came into contact with the wound ('*Journal de Méd. et de Chirurgie Pratique*,' March, 1854.) This case, Dr. Hardy says, serves to show of what great advantage this practice may be in gunshot wounds, where extraction of the ball is necessary. A stream of chloroform passed into the wound might enable the sufferer to undergo the operation without any pain.

Several cases of open cancer are related, in which the relief to the pain was very marked.

(3.) *Cases in which the vapour was applied to unbroken mucous membrane.*

"Mucous surfaces seem to be particularly eligible for receiving the influence of chloroform vapour. When its local application was first brought before the notice of the profession, I alluded to the sensation of heat which was experienced when those tissues were subjected to its action. In some instances this is so great that it is complained of a good deal, but I have never met with any case in which it was necessary to relinquish its use on that account. Ceasing to propel the vapour for a few seconds was quite sufficient to enable the patient to bear it. The relief afforded is in general so agreeable that many would willingly endure a greater feeling of discomfort rather than be deprived of its efficacy."

Case of Painful Hemorrhoids.—At a meeting of the Surgical Society already alluded to, Dr. Forrest detailed the following case:—

"A gentleman, æt. about 36, who had suffered from piles on several occasions, sent for me, owing to an attack of his old complaint. I found the mucous membrane of the anus everted, with several hemorrhoids attached to it. The pain was so severe, notwithstanding the use of fomentations, which had formerly relieved him, that no pressure could be borne, nor any attempt be made to return them. The vapour of chloroform was then applied by the douche for several minutes, which produced so soothing an effect that I was able to press them within the sphincter without causing him any uneasiness."

Case of Irritable Bladder.—A female patient, æt. 37, the mother of one child, had suffered so much from irritation of the bladder for two years, but particularly during the month of July last, that her state was most distressing. The calls to micturate were incessant, and always attended with very severe pain. By means of a catheter attached to the douche, I threw the vapour of chloroform into the bladder, occasionally removing the nozzle of the douche from the end of the catheter, to allow the vapour to return. Great heat was at first complained of, but (by ceasing at intervals) the operation was continued for about five minutes. Next day the woman informed me that after the application of the chloroform, she was able to walk a distance of about two miles without being under the necessity of relieving the bladder. When she did pass water, it was in much greater quantity than it had been for a long time, and attended with less pain. The vapour was used on the second day with like beneficial results. Afterwards hip-baths and diluents completed the cure.

Case in which Menstruation was scanty and painful, and finally ceased.—, æt. 35, enjoyed excellent health; menstruated regularly for three days, and free from any discomfort until her marriage, which took place nine years ago. After this event, she gave birth to a male child, which lived for six months. During lactation, the catamenia appeared each month as formerly. From this time her health gradually declined, and in the course of a year, notwithstanding medical treatment, she was in a very debilitated state. I first saw her four years after her confinement. Pregnancy had not taken place; her menstrual periods, in their approach, and while present, were accompanied with severe pains occurring at intervals, and the flow continued for scarcely one day. Ulceration of the os uteri, which I treated her for, soon got well, her health was restored, and she again conceived, but owing to an accident aborted at the third month. Although by the miscarriage her general health suffered little, yet from this date menstruation steadily lessened in quantity, but was not attended with pain, until at length it entirely ceased, without there being any reason to attribute this circumstance to the existence of pregnancy. As the secretion diminished, her head and chest became very much affected with what she described as a "bursting sensation," which was particularly distressing at the time of each expected return of the catamenia. She was becoming very fat, and had a feeling of general discomfort. Various remedies had been tried in order to restore the uterine secretion and to relieve those uncomfortable sensations, but to no purpose. I now directed the vapour of chloroform to be thrown into the vagina when the next period was known to be approaching. On the first

occasion menstruation was established and continued for two days: on the three following, the same means being resorted to, it flowed for three days in proper quantity, and with the absence of all the uneasy feelings above described. It now comes naturally and without the use of chloroform, and in every respect her health is perfect.

Case of severe Uterine Pain, with suppression of Menstruation.—

A lady of strong and healthy appearance, residing in the country, consulted me in September, 1852. She had given birth to two children, and had aborted several times. Since her last miscarriage, which was caused by jumping from a height, she felt a disagreeable sensation, of a painful nature, in the uterine region, and menstruation becoming more and more scanty and irregular, had entirely ceased. She was very languid and incapable of much exertion. On examination, the os uteri was found extensively ulcerated and the cervix enlarged. Her health having improved, and the uterus being healed, she returned to the country, where she made use of shower and hip-baths, and took gentle exercise on horseback, which served her greatly. Again her health declined, and she consulted a neighbouring practitioner, under whose treatment she continued for a considerable time. Afterwards she came to town, and informed me that owing to severe pain in her back and uterus, she was unable to sit for any length of time in the erect position, particularly in the evenings. All those symptoms were greatly aggravated periodically, when menstruation should be present. The uterus was rather larger than natural, but had no abrasion, and the cervical canal was pervious. I commenced the local application of chloroform vapour at the expected catamenial period. The following is the report given in a letter by the patient herself:—"It is with much pleasure I tell you the result of the chloroform ordered by you. While in town it enabled me to walk without pain in my back, or the very disagreeable internal pain, or gnawing feel, which I had for some time—I may say for years. I had not a change for the last twenty months; but having used the chloroform for ten days, it came on, which though scanty, I feel is all right. There was no pain whatever, as (when I began to feel uneasy) I used the chloroform. It has done wonders for me already."

I lately received the following letter from this lady:

"I am able to take a great deal of exercise without fatigue, and when I have pain I use the chloroform, which has not in the least lost its effect, but soothes me at once." It is now five months since its application was commenced.

4. *Cases in which the vapour is applied to abraded mucous surfaces.*

The vapour of chloroform when applied to mucous surfaces abraded or ulcerated, generally causes a good deal of the sensation of heat; but although this feeling is more frequent and of longer duration than where the surface is unbroken, it is not so extreme as to prevent patients from easily bearing it. The following cases will serve to illustrate its influence when applied under these circumstances.

Case of Ulceration of the Os Uteri.—A patient, the subject of very extensive ulceration of the os uteri, suffered so much from lumbar pain and general distress in the uterine region, that the vapour of chloroform was applied in the usual manner, by means of the douche.

The heat and scalding sensation was so great that until after the lapse of half an hour from its application, no beneficial effect could be perceived. No sooner had the uneasiness caused by the chloroform subsided, than the relief was complete, and of very considerable duration.

Elongation of the Cervix Uteri.—On the 20th of October last, late in the evening, I was called to a patient who was suffering from violent expulsive pains, which I found on examination to depend on an elongated growth from the uterine cervix, so long that it protruded through the os externum. The mucous membrane of the uterus was abraded, and the vaginal canal felt extremely painful to the touch. By an opiate suppository and draught, the pains were quieted, and the woman had a good night's rest. On the next day I placed a ligature on the tumour, and until the third day (when I removed it below the ligature by a curved scissors) the pains were on each return perfectly removed by the vapour of chloroform thrown into the vagina by the douche. No complaint whatever was made during its application to the abraded mucous membrane.

Cancerous Ulceration of the Rectum.—The 'Medical Times and Gazette' for August 19th, p. 195, contains the results obtained by M. Gouzales Conde. It says:—"The Spanish professor has, after the example of the originator, Dr. Hardy, tested the local power of the anæsthetic to assuage the pains of cancerous ulcers. The cases were those of ulceration of the interior of the rectum, accompanied by most severe suffering, such as ordinary sedatives were insufficient to calm. M. Conde employed a bottle containing a sufficient quantity of chloroform. Its mouth was occupied by a well-fitting cork, through a hole in which a gum-elastic catheter was passed. The sound was introduced so far, that its apertures were in direct contact with the ulcerated surface. The vaporization of the chloroform was commenced; first, by the application of the hands to the bottle which contained it, then by bringing near it a heated stove. The patient experienced a slight pricking sensation, which took the place of the cancerous pains. This sensation extended upwards towards the colon. From the rectum some gas escaped, having the odour of chloroform. The sufferings were quickly appeased, but the most remarkable circumstance was that the pulse, which at the commencement of the experiment was accelerated, fell first to its natural rhythm, and then sunk to sixty beats in a minute. The ease, however, bestowed by the chloroform, was not limited in its duration by the effect produced on the pulse. For a week the pains did not return, nor was it necessary to reapply the anæsthetic for the whole of that period." ('El Heraldo Medico,' June, 1854, p. 165.)

ART. 70.—*Instructions for using benumbing Cold in Operations.*

By Dr. JAMES ARNOTT.

(*Medical Times and Gazette*, Nov. 11, 1854.)

A piece of gauze (formed, for the sake of convenience, into a small net or bag), the components of the frigorific mixture, a canvas bag

or coarse cloth, a mallet or flat iron, a large sheet of paper, a paper-folder, and a sponge, constitute all the articles required for congelation. The common frigorific of ice and salt will generally possess sufficient power; when greater is required, saltpetre or an ammoniacal salt may be added. Every systematic work on chemistry contains tables of frigorific mixtures, as well as instructions for making ice, which, when but a small quantity is required, may be thus artificially procured almost at as little expense as from the fish-monger.

A piece of ice the size of an orange, or weighing about a quarter of a pound, will be sufficient for most operations. It is put into a small canvas bag or a coarse cloth, and beaten, by the quickly-repeated strokes of a mallet or flat iron, into a fine powder. As it is important that the powder should be fine, it is not ridiculously minute to state, that the bag should be turned in various directions during the pounding, and that the pounded ice, squeezed into a cake by the iron, should have its particles again separated by rubbing the bag between the hands. Instead of pounding it, the ice may be pulverized by the ice-plane.

The pounded ice having been placed on a large sheet of paper, any loosely-cohering particles may be separated by a paper-folder, and the unreduced larger bits removed. Beside it, on the paper, about half the quantity of powdered common salt is placed, and they are then quickly and thoroughly mixed together, either by the ivory folder while on the paper, or by stirring them in a gutta-percha or other non-conducting vessel. If the mixture be not quickly made, the extreme cold of one part of it may again freeze other parts into lumps.

The mixture is now put into the net (which may be conveniently supported and preserved from contact by placing it in the mouth of a jar or ewer), and as soon as the action of the salt on the ice appears established by the dropping of the brine, it is ready for use.

In applying the net, the part which is to be benumbed should be placed in as horizontal a position as possible; and it is well to raise the net for a moment every three or four seconds, in order to secure the equal application of the frigorific, and watch its effect. If the part be not horizontal, it may be necessary to hold the gauze bag containing the frigorific against it by the hand covered with a cloth; and if the net does not cover the whole of the surface to be benumbed, it must be passed to and fro over it. A moistened sponge placed lower than the net will absorb the fluid escaping from it, or this, on some occasions, may be allowed to drop into a basin placed underneath.

The procedure, as now described, may appear not only troublesome, but as requiring much time. The truth, however, is, that after one or two trials it is unlikely that any mistake will be committed, and the time occupied by the preparation of the mixture and its application should rarely exceed five minutes. So simple is the apparatus required, that, in cases of emergency, I have frequently procured everything but the ice at the house of the patient. The application of a solid brass ball which has been immersed in a freezing mixture,

or a thin metallic spoon or tube containing this (with or without ice) is quite as easy.

The effects of this mode of applying intense cold are various, and their succession is as follows:

When a well-prepared frigorific mixture is brought in contact with the skin, a certain degree of numbness is immediately produced. The skin is rendered paler than natural, but there is hardly any disagreeable sensation produced, not even of cold. In about half a minute, the whole of the surface in contact with the frigorific becomes suddenly blanched, evidently in consequence of the constriction of its blood-vessels. This change is accompanied with a feeling of pricking or tingling, such as that produced by mustard. If the application be continued, a third effect is produced; the adipose matter under the skin is solidified, and the part becomes hard as well as white. The tingling is increased by this; but, unless in the most sensitive parts of the body, as the hand or lower part and front of the forearm, it is rarely noticed or complained of. Although this uneasy sensation soon subsides, there will, if the temperature of the part be not allowed gradually to return, and if the cold has reached the stage of congelation, be a renewal of it on the adipose matter again becoming fluid. This gradual return of the natural heat is ensured by placing a little powdered ice on the part, or a thin bladder containing ice and water.

The question, how far the refrigeration should be allowed to proceed, or which of the three stages just described should be reached, has been answered differently by different operators. In many of the slighter operations, either of the first stages will be sufficient, and the measure just mentioned for effecting a gradual return of heat will then be unnecessary. If congelation of the fat is produced, and the operation is proceeded with before it returns to its fluid state (which is of advantage when it is important to prevent bleeding), there may be required, as Mr. Paget has observed, a modification in the handling of the scalpel; not only, however, is there a certainty that the insensibility both in degree and continuance will be then sufficient, whether the incision is made before or after the fat again becomes fluid, but (what is of equal importance) that antiphlogistic effect is secured, which prevents those consequences which so often prove fatal under common circumstances. On other points there have been great differences of opinion, though probably the results have not been so different as might have been expected. Dr. Wood, of Cincinnati, and M. Richard, of Paris, use frigorifics differing from each other in power, as much as 30° Fahr.; and Mr. Ward applies the frigorific for only one minute, while Dr. Hargrave applies it for five. Perhaps the longer congelation is continued (and it may be safely continued for double this period) the deeper and the longer continued the produced anæsthesia may be; but it were unreasonable to prolong an operation inconveniently in order that there shall be absolutely no feeling. In exhibiting chloroform the surgeon is not authorised to give a very large and very dangerous dose in order that the insensibility shall be absolute. But if it should appear that a certain continuance of congelation is necessary to ensure its antiphlogistic power, this would be a sufficient reason for always so continuing it.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 71.—*Sight given to a person born blind after 22 years of Blindness.* By Mr. CRITCHETT.

(*Medical Times and Gazette*, Nov. 23, 1854.)

We hope to hear more of this very interesting case on a future occasion, but at present, the details are very scantily supplied. The cause of the blindness was congenital capsular cataract.

CASE.—Jane S—, æt. 22, was brought to the Royal Ophthalmic Hospital in the spring of 1849, suffering from cataract in both eyes, with slight internal strabismus, and considerable involuntary rolling and oscillation of the globes from side to side. The corneæ were bright; the anterior chambers large; pupils small and irregular, and filled with an opaque white substance; perception of light was good. She had frequently been operated on before. Mr. Critchett first succeeded in detaching the adherent irides from the capsules by the usual needle operation, the puncture being made through the cornea. By a second proceeding he made a small opening through the scleroticæ, and dragged the capsule from the sphere of vision by means of a hook in one eye, and fine forceps in the other. Then, to remedy the oscillatory movement, which prevented the impression of any object distinctly upon the retina, he divided, first the internal, and then the external recti muscles. The sight is now improving, and by education she is slowly beginning to make some valuable use of her newly acquired sense.

ART. 72.—*On the employment of Chloroform in operations on the Eyeball.*—By Mr. HAYNES WALTON, Surgeon to the Central London Ophthalmic Hospital, &c.

(*Medical Times and Gazette*, Jan. 27, 1855.)

The following remarks occur in a clinical lecture :

“Most unquestionably, in infancy, chloroform does afford very great assistance; for, without it, resistance on the part of the little patient is certain. You must have witnessed repeatedly the difficulty there is, in certain diseases, in unclosing the eye of an infant so as to obtain a satisfactory view; and surely you cannot forget the little battle that ensues, and the terrible screams that accompany and follow the attempt. The very diminutiveness of the organ, whereby there is much less room for the use of the fingers and for instruments, together with the great delicacy of the parts, demand the utmost exposure of the surface of the eyeball, with the greatest steadiness. In former years, the operation for congenital cataract was frequently postponed, because these desiderata could not be commanded; and I believe that occasionally in the present day their acquisition is considered impossible, and an operation delayed to the great detriment of the patient. I strongly suspect that the reason why the posterior opera-

tion for 'solution' has been so frequently advised in infancy, is because of the greater nicety required to perform the anterior one; and you will at once understand, that, without the paralysing effect of chloroform, to retract the palpebræ, introduce a needle in cornea near the circumference, direct the point in the manner desired against the capsule of the crystalline lens and the lens itself, without touching the iris, or using injurious force, is no easy matter, or, at least, it may not be easy. True it is, that a modern lid retractor, of silver wire, or steel, removes some of the difficulty, but only a part, for the difficulty of securing the child, as well as other obstacles, still remain.

"Again, from what I hear, and indeed from what I see, it would appear that, before the use of the anæsthetic agent, the operation for congenital cataract was not unfrequently left unfinished. The capsule which blocked up the pupil was not always removed; and the operation, in any given case, was more often repeated, not merely from the erroneous idea that then existed, and unfortunately still does exist, about repeating needle operations; but also on account of the difficulty that frequently prevented the surgeon from carrying out his previous intentions.

"With children, and young persons in general, even when an operation is painless, there is an expectation of something worse than what is actually felt, and generally a deficiency of resolution, that renders it impossible for them to be sufficiently quiet without violent resistance, or the employment of mechanical restraint; and failures and mishaps are more commonly due than could be supposed, to the unsteadiness of the eye. If I had noted down all the instances that I have witnessed of foiled endeavours, they would form a large page in my note-book.

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"I now pass to those operations on the adult eye, in which we may receive considerable assistance from the insensibility of the patient. It is evident that here there should be a distinction between such cases as require chloroform merely because of lack of moral courage, and those in which it is of positive advantage under any condition; as in the one, we may leave the choice to the patient, in the other, it is our duty to recommend it; as it is a fact that, with the fullest consent and greatest determination on the part of a patient, indeed, with a resolution that could endure a limb to be severed from the body without a groan or a cry, and with every desire to assist the operator, there are cases in which anæsthetic sleep may be advantageous. The majority of operations for artificial pupil, especially where the proceeding is complicated, and requires the use of more than one, or the re-introduction of the same instrument, falls under the latter category. An eye, for the most part, that requires this aid, is much damaged; the parts with which we have to deal are altered, and the vitreous humour is too frequently disorganized; so that we need the greatest steadiness of the eyeball, with long continuance of a given position, and an absence of much pressure. Now, the movements of the eyeball may be quite involuntary, and the eyelids will twitch, in spite of the most resolute will. But not the least disadvantage of conscious-

ness is the compression that the straight and oblique muscles can and do exercise in such operations. When acting violently, they exert considerable influence; and the effect of such an agency, at such a time, is always hazardous, in several ways. Again, in many operations of general surgery, the sooner the manipulation ends, and the instruments are out of the body, the more certain is the result; this is doubly true of the eyeball. These remarks may be said to apply, in the main, when the eyeball is to be opened for the extraction of any body, be it capsule, animalcule, or any particle driven into it from without, when decided difficulty or intricacy is apprehended.

"I have purposely delayed till now to refer particularly to the formation of an artificial pupil in an infant or a child, because, after what I have said, you may the better appreciate the difficulty attending the execution of such a task, and the better recognize the assistance to be derived from a perfectly passive state. An infant that has lost its pupil from purulent ophthalmia, or any other cause, is not now doomed to darkness till the adult period, or, at least, need not be, as in past years. We can operate on the smallest eye, and the consent of the patient is not necessary.

"The extraction of a cataract may undoubtedly be better performed under the influence of chloroform, both when there is a certain deficiency of moral courage, and when there exist conformations of the eye that render the operation peculiarly difficult, and requiring more than usual dexterity. But as it is after the meridian of life, and often in the very aged, that extraction is needed, we should be careful not to use chloroform needlessly. In the early period of our existence, the risk of a fatal termination is exceedingly small. Not so, however, in the old and enfeebled, in whom the heart is so often diseased by being degenerated,—a state which the most rigid scrutiny during life may fail to detect. Disease of the heart, however, has not been always found in those who have been killed by chloroform. Remember, too, that the operation is unattended with pain when well executed. Therefore, you should not use such an agent as a matter of routine, but withhold it when it may be dispensed with; and whenever you intend to employ it, exercise the most searching scrutiny as to its admissibility. We should not lightly place an aged person in a state so closely resembling apoplexy that the most astute physician could not, at the moment, point out the difference.

"Timidity, and the accompanying restlessness of a patient, may render it impossible to operate successfully. I have seen this over and over again, even under the hands of operators who have not been surpassed in this kingdom for self-possession and brilliancy in execution. On each occasion, the eye was either lost or much damaged, from the unavoidable results of operating against the patient's resistance. Here chloroform removes all difficulty.

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"It remains for me to mention those physical peculiarities of the eye which impede extraction, and which may be surmounted by the aid of chloroform. They are mainly those that present impediments to exposing and steadying the eyeball sufficiently to enable the cornea to be divided in an ample manner, such as a sunken eye, a narrow

palpebral aperture, unusual prominence of the orbital ridge. In any of these states, more pressure with the fingers is generally required than the eye will bear. During stupor, the eyelids can be more widely extended, and the eyeball fixed with a lightness of touch that would, on account of the peculiarities, be insufficient during sensibility; there being, in fact, all the difference between involuntary resistance, however slight, and absolute quiet. Beyond this chloroform does not assist us.

“When a patient has tolerable fortitude, at all events whatever be his mental emotion, so long as he remains master of his will, and can direct his eye to the position desired, and there are not impediments to exposing his eyeball to the required extent, I would rather that he retain his senses during the operation, for then I believe that the crystalline lens is better started from its position, that it escapes more readily, and that the pupil is the more quickly restored to its natural state, and the iris less liable to prolapse after the terrible stretching it has received. Even supposing this not to be the case, and things are equal, is it not far better to save an aged person, if only from all the formality and distress of an inhalation? Is it not better to see a patient rise and walk to his bed or couch, rational and thankful, than for him to be removed, half-conscious, sick, miserable, and requiring careful and anxious attention, both on account of the constitutional effects of the chloroform, and the injury he might inflict on his eye? At a meeting of the Royal Medical and Chirurgical Society, on the 14th November, when a paper on an ophthalmic subject was read, Mr. Fergusson asked to what extent chloroform was employed in operations on the eye, meaning the eyeball, and with what success. Mr. Dixon said that a patient might not vomit soon after the inhalation of chloroform, but he might remain twelve or twenty-four hours in a sickly, squeamish state, with but little appetite for food. This was more injurious than vomiting, for it was of the greatest importance, especially in old persons, that the nutrition of the patient should be well maintained, and the eye kept perfectly at rest.

“I have several times calmed the fears of elderly persons on whom I was about to perform extraction, and dissuaded them from inhaling chloroform, and in every instance I have been thanked for my advice. I have been asked repeatedly, even by patients, if the anæsthetic sleep does not give confidence to the operator, and enable the operation to be the better done. I can only say, that if, in any given instance, this is likely to be true, the timid surgeon had better avail himself of every admissible assistance that is likely to restore sight to his patient. He had better narcotize him, and, if needs be, stimulate himself.

“I shall not enter into the details of preparing a patient for taking chloroform, the mode of giving it, nor the after treatment. This I have dwelt on elsewhere; but I will tell you,—be certain of insuring complete insensibility before you begin to operate, that all the steps of the operation may be over before the patient is sensible, for you can have no greater misfortune than for him to awake before the termination, and to commence struggling. There is a particular point in the after treatment that must be attended to, the neglect of which

has cost several eyes ; and this has induced me to say in my work on the Eye : ‘ Except the operation for the extraction of cataract, or the division of the cornea to a like or nearly equal extent, for any other purpose, there is no operation on the eye in which well-founded objections exist to the previous use of chloroform or ether as anæsthetic agents. In the exceptions mentioned, the objection arises from fear of vomiting, and the loss of the vitreous humour. It is true, that vomiting is but an occasional effect of the use of these agents, and it can nearly always be prevented by emptiness of the stomach previous to inhalation, and which is secured by enjoining a strict fast for four or five previous hours ; but, after every precaution, vomiting may occur, or severe retching, which is equally injurious.’

“ I wrote this from instances that had come under my notice, and I dreaded to employ the chloroform. Subsequent experience convinced me that all necessary precautions had not been used. If the eyelids are carefully retained together with court-plaster, there is little if any ground for misapprehension, except there be that degree of vomiting which could perhaps arise only under an absence of those preliminary precautions to which I have alluded.”

ART. 73.—*The advantages of the Ophthalmoscope.*

By Dr. E. BADER and Mr. ROBERTS.

(*Medico-Chir. Rev.*, April, 1855.)

In this paper the authors give a full description of an ophthalmoscope, of the manner of using the instrument, and of the phenomena which are brought to light by its use. The advantages which have been already derived from its use are, in their opinion, the following :

“ 1st. The possibility of detecting the slightest impediment to the passage of light through the lens.

“ 2d. The possibility of seeing the reason of the frequent unsatisfactory result of tearing through membranes occluding the pupil.

“ 3d. The advantage of being able, in many cases, to see (through the cataractous lens) the state of the parts behind it—as the vitreous humour, whether healthy ; retina, whether detached, &c.

“ 4th. The certainty of not mistaking an anæmic for a congested condition of the internal tissues.

“ 5th. The advantage of not treating a patient who is amaurotic from a detached state of the retina with too energetic medicines.”

ART. 74.—*A simple mode of operating in Fistula Lachrymalis.*

By Mr. BICKERSTETH, of Liverpool.

(*Edinburgh Monthly Journal*, April, 1855.)

“ As far as I am aware,” writes Mr. Bickersteth, “ it has hitherto been considered essential to the success of the operation for fistula lachrymalis, that the point of the knife should pass into, and be carried along, the lachrymal canal before attempting to introduce the style. As this is a proceeding which required some tact and minute anatomical

information, it has at all times received from surgical authors considerable attention, and long and complicated directions are common, describing the method to be adopted to secure its ready and safe performance. The French writers have, as usual, surpassed the English in the minuteness of their description. Thus we have the steps of this little operation divided into the 'Premier temps,' the 'Deuxième temps,' and the 'Troisième temps,' and half a page or more devoted to the discussion of each. Desmarres, in his work on eye diseases, when speaking of the 'premier temps,' says: * * *

'Et je lui recommande de tirer l'angle externe des paupières pour tendre les parties; et surtout pour faire saillir le tendon de l'orbiculaire. Ce tendon représente alors une ligne horizontale formant le côté supérieur d'un triangle dont le côté inférieur légèrement courbe est tracé par l'orbite. Partant du sommet du triangle, je compte de dedans en dehors 4 à 5 milli-mètres, et là, je tire une ligne verticale dont la hauteur n'ayant pas plus de 5 milli-mètres, mesure la base du triangle dont je viens de parler. Je partage cette ligne en trois parties égales, et c'est à la réunion du deuxième tiers inférieur avec le tiers supérieur que la ponction sera faite—Ces dispositions prises,' &c., &c.

"The utter futility of such a complicated plan for finding the proper point to open the lachrymal sac, must be obvious to all practical surgeons, for in the vast majority of cases requiring this operation, the swelling and tumefaction are such as to render it altogether impossible to make these dispositions. And when there is little or no alteration of the external parts, and the operation is desirable, nothing can be more simple or effectual than to feel the orifice of the canal, by pressing the nail of the fore-finger deeply downwards immediately below the tendo-palpebrarum, and to introduce the knife, guided upon the nail, directly into the passage. This, in fact, is the proper method of proceeding whenever it can be adopted, but generally it is impracticable from the cause just mentioned. To pass the knife directly into the canal must then be more or less a matter of guess-work.

"Until a recent period I was in the habit of judging its position by observing precisely its relative situation on the unaffected side, and then bearing this in mind, I was generally able to direct my bistoury at once into the obstructed passage. However, a case occurred last September, in which, owing to the almost horizontal direction of the canal, I signally failed, although after a good deal of poking about with the probe I succeeded in finding the passage, and then in introducing a style which passed without unusual resistance. The patient quickly recovered, but after the first few days a good deal of trouble was experienced in keeping the style from falling out, when she bent the head forwards.

"This case naturally led to reflection regarding the pathological nature of obstruction in the lachrymal canal. It is no doubt various in different cases. It may arise from tumours occluding either extremity; it may be caused by necrosis of the bony textures entering into the formation of the tube, and this is by no means uncommon in children of a strumous habit; but by far the most frequent cause is from the extension of inflammation from the lacrymal sac to the

lining membrane of the canal. Swelling takes place, and as an almost inevitable consequence the passage is choked up by secretion, and by the tumid state of its mucous membrane. When once produced, this state of matters may continue indefinitely, unless remedied by mechanical means; but I am not aware of any reason for believing that the canal ever becomes so completely filled up by densely organized material that the passage is obliterated, and a necessity created for using the knife in order to establish a new canal. Certainly, if such cases do exist, they form the exception to the general rule.

“With this view of the subject I have ceased to operate as before, and now content myself by making a simple puncture into the abscess or lachrymal sac; and then introducing the style, guide it to the orifice of the canal, and with gentle pressure pass it along the tube. The ease and simplicity of this method of procedure is surprising as compared with the usual plan, and I believe it will be found very generally practicable, and equally efficacious in restoring the canal to a healthy condition. During the last five months I have adopted this simple means in six consecutive cases of confirmed fistula lachrymalis, with results at least as satisfactory as by the former system. In one case the fistula was of eighteen months’ duration, yet the style passed without difficulty, and the patient made a rapid and complete recovery. In another case, the patient—a nervous and excitable female—could not bear the idea of being cut, I therefore insinuated the style along a fistulous opening, which fortunately happened to be nearly over the duct, and succeeded in passing it into the canal without trouble and without pain. She also made an excellent recovery, but an ugly scar remained from ulceration caused by the pressure of the style against the fistulous orifice, which was not quite over the canal.”

ART. 75.—*The quantity of Sulphate of Atropine requisite for Dilatation of the Pupil.* By M. F. C. DONDEERS.

(*Nederlandsch Lancet*, March, 1854; *Edin. Mon. Jour.*, Dec., 1854.)

Amongst the narcotics which induce dilatation of the pupil, belladonna occupies the first place. Its best preparation is the sulphate of atropine, which in weak solution has no irritant effect, and is free from that mechanical action which may be objected to the extract of belladonna, while, through its uniform composition, it can be applied in precisely regulated strength.

The English were the first to introduce this preparation into practice. In London it is generally used in the proportion of 4 grs. of sulphate of atropine to an ounce of distilled water. A single drop of this, retained in contact with the cornea and conjunctiva for only a few instants, produces, in twenty to twenty-five minutes, a *complete dilatation, with immovability of the pupil.*

Such a dilatation is desirable and even necessary to obviate synechia, synizezis, prolapsus iridis, &c., and also as preparatory to the operation for cataract, in which the pupil has so great a tendency to contract. It would also be highly advantageous, when it is wished to

dilate the pupil, in order to examine the deeper-seated parts, the lens, the vitreous humour, the retina, and the choroidea, with the aid of the ophthalmoscope; but there is here an important counter-indication, in the marked disturbance of vision which is temporarily induced by it. Besides the intolerance of light, which annoys some, the seeing of small objects, as in reading, is rendered almost impossible for from four to eight days, in cases where this could be accomplished readily in ordinary states of the pupil, so that most persons complain of it bitterly. In cases of amblyopia also the patient becomes usually less able to distinguish objects during several days; and shows unnecessary alarm lest the instillation should have injured the sight permanently, notwithstanding the forewarning, which I have never neglected, that the effect was merely of a temporary nature.

The objection, thus occasioned, led me to the inquiry, whether it was not possible to fulfil our purpose, without exposing the patient to the inconvenience of which he thus justly complains. One obvious course was, to employ weaker solutions; and yet I continued for long, like others (it may be said in excuse), to pursue the old routine, and to use, in all cases, the solution of gr. iv to the ounce of water. Dr. De Ruiter ('*Nederlandsch Lancet*,' 1854, p. 464) had already stated, that a drop of a solution, in which was contained not more than $\frac{1}{129600}$ th of sulphate of atropine, when kept some time in contact with the eye of a dog, sufficed to produce a dilatation lasting for twenty hours. Further experiments on dogs have shown him that a solution with a proportion of $\frac{1}{3600}$ th of sulphate of atropine, induces powerful dilatation in ten to fifteen minutes, which disappears only at the end of four days; that a solution with $\frac{1}{21600}$ th, five to ten minutes in contact with the eye, causes also strong dilatation, and even sometimes immovability: that a solution with $\frac{1}{129600}$ th, kept five minutes in contact, gave a good dilatation at the end of an hour, which lasted eighteen hours; that with a threefold dilution, and the same time of application, a perceptible dilatation still followed, and that it was only upon a sixfold dilution, and therefore with $\frac{1}{772600}$ th, that the effect became doubtful. The sensitiveness of the eye to atropine, indeed, excites astonishment, when we consider that of the single drop of the attenuated solution, which suffices to produce dilatation, probably not a fiftieth part is absorbed.

At my request, Dr. De Ruiter has also investigated the sensibility of the human eye to atropine. It seems to be somewhat smaller than in the dog; yet is so strong that, where it is desired to examine the internal parts of the eye, a much weaker solution than that ordinarily employed is sufficient to produce a good result. I consider it superfluous to communicate the various trials made upon man. It is enough that they have led me to adopt the following solutions:

1. Of gr. iv of sulph. atropini to an ounce of distilled water, as preparatory to operations, to prevent threatening synechia, synizezis, or prolapsus iridis, and to increase the capacity of sight in central cataract, or in central opacity of the cornea, &c.

2. One part of this solution, diluted with fifteen parts of water, in order to induce full dilatation, with transient immovability of the pupil, with a view to a full examination of the internal parts, in all

directions. The dilatation ensues after thirty to forty-five minutes, and ordinarily, in twenty-four hours, ceases to disturb the vision.

3. The same solution, diluted with eighty parts of water, that is, one part of sulph. atropini with 9600 parts of water; of this I make use in far the largest proportion of cases. One or two drops of this solution, held for a few seconds between the eyelids, causes, in thirty to sixty minutes, a dilatation sufficient for the examination of the greater number of eyes. The dilatation, however, is not so strong as perceptibly to injure vision, and in eight to thirty-six hours it has wholly passed away. I esteem it a great advantage in common cases to make use of this dilute solution.

ART. 76.—*A plastic operation for the restoration of the Lower Lip.*
By Mr. TEALE, Surgeon to the Leeds General Infirmary.

(*Medical Times and Gazette*, Dec. 23, 1854.)

This operation (which is described in a paper to the Royal Medico-Chirurgical Society) consists in the formation of two lateral flaps from the everted lip and neighbouring portions of the cheeks, and in uniting them in the mesial line, above the central portion of the base of the everted lip; or, in other words, in building up a new lip upon the base of the old one. Two vertical incisions, about three quarters of an inch in extent, are made through the everted lip down to the bone, leaving between them the central portion of the lip, of an extent equal to half the distance from one angle of the mouth to the other. From the lower end of each of these the knife is carried in a curving direction upwards and outwards, so as to terminate about one inch from the angle of the mouth, opposite the second molar tooth of the upper jaw. The two flaps thus marked out are detached from their connexions with the bone, the mucous membrane uniting them to the alveoli being freely divided. Lastly, a bare surface is made along the upper border of the central portion of the everted lip by a transverse line of incision near the junction of the lip with the alveoli. The lateral flaps are then united by twisted suture, and two or three interrupted sutures to each other in the median line and to the central portion of the lip below.

ART. 77.—*The treatment of Salivary Fistula.* By M. RUDOLFI.

(*Gaz. Med. Italiana*, 1854; and *Gaz. Méd. de Paris*, Dec. 16, 1854.)

The plan which is here described is recommended by its simplicity as well as by the success which attended its employment. It ought, at least, to have a fair trial before having recourse to severer measures.

CASE.—A man, æt. 28, strong and healthy, was operated upon, in July, 1853, for a cyst in the course of the duct of Steno. Three days afterwards, saliva was found to escape from the wound.

First of all, careful pressure was made with small pledgets of lint. The result of this treatment was, that a painful and red swelling formed in the

neighbourhood of the parotid gland. Attempts were then made to close the wound with a silver needle and a twisted suture; but this plan did not answer, and after four days the saliva escaped freely from the punctures made by the needles. After this a steel contrivance was used, which kept the edges of the wound in contact throughout their whole extent, but this the patient could not bear.

M. Rudolphi next bethought himself of collodion. He carefully dried the edges of the fistula, and applied two drops of the solution, which presently dried up, and left the part covered with an artificial cuticle. The day following, he thickened this pellicle by dropping more collodion upon it, and so on the next day and the day following; and the end was, that in eight days the patient was perfectly well, the fistula having been closed from the time of the first application of the collodion.

ART. 78.—*Dryness of the Tongue a consequence of Nasal Polypus.*
By Dr. BENTLEY, Physician to the City of London Hospital for Diseases of the Chest.

(*Medical Times and Gazette*, March 3, 1855.)

Contributions towards an accurate knowledge of the meaning of symptoms, and the indications derivable from them, are of the utmost value, and, as such, the following case appears to be well worthy being brought before the attention of the profession. There is, perhaps, no single symptom upon which practitioners of experience are accustomed to rely with more confidence than upon the state presented by the tongue. Its condition as regards dryness or moisture, which is the one with which we are now concerned, is always held to be an indication of the utmost importance. Every one is, of course, aware that the tongue may be made dry by the continued passage of a current of air over it, as often happens in fevers, &c., when the patient lies with the mouth open. It is probable, however, that whenever this occurs readily, and to an extreme degree, the secretions are at fault likewise, the merely subjective phenomenon of clamminess, and a feeling of dryness perceived only by the patient being the more ordinary products of such exposure. A bad cold in the head, causing obstruction to the nasal passages, and obliging the patient to sleep with the mouth open, will often cause the tongue to feel on waking as dry as possible, but in reality rarely causes it to become absolutely arid, *i. e.*, to the touch or to the eye. The careful observer is, therefore, from a knowledge of these sources of deception, always accustomed, when his patient complains of a dry tongue, to examine closely as to the influence which mere exposure of the organ may have had in producing it.

We are not aware, however, that any observations have as yet been recorded which would inculcate the yet further degree of caution which is taught by the following case: It would seem from it, that not only may nasal obstruction cause the perception of dryness of the tongue to the patient, but that it may cause the important objective symptom of an arid, and absolutely dry streak, to persist without change for months together.

Henry L——, æt. 32, an omnibus-driver, a tall, florid, and moderately stout man, first came under care on June 3d, 1854. He had been away from work for several weeks, complaining of feeling weak, confused in his head, &c. The tongue was generally red and firm-looking, and presented on its dorsum, for a few lines on each side of the centre, a streak, which ran from tip almost to base, which was quite dry. His lips were red and parched, and the countenance a little bloated-looking. He had very little cough, and complained almost solely of headache. The dryness of the tongue being supposed to indicate some chronic visceral disease, a very careful examination of the chest and abdomen was made, but nothing was detected. To make the story short, we may state, that from this date to December 3d, a period of six months, he continued to attend regularly as an out-patient, once a week or fortnight, and was seen conjointly by Dr. Bentley and Mr. Hutchinson. His peculiar symptoms excited much interest, and he was repeatedly subjected to most careful examinations. During that period, although retaining an appearance of robust health, he always alleged that he could not work on account of his headache. His aspect, to a certain extent, confirmed his description of the headache, for he generally looked confused and heavy, as if in much discomfort. At times, he said, the pain and disagreeable sensations of fulness in the head were such, that "he thought he should go mad." His habits were inquired into, and it appeared that he was a sober man, accustomed to live tolerably well. While under treatment, he abstained entirely from strong drinks. The urine was generally clear and natural in appearance, the bowels acted regularly, and the appetite was fair. Many remedies were tried; repeated blisters to the back of the neck, a long course of small doses of mercury, stomachics, &c., but with only very slight and variable benefit. Once or twice during the period referred to, the notes state that the tongue was less dry than usual, but it never got moist, and generally presented just the same arid streak which it had done at first. The headaches also persisted, and were frequently very severe. The man had, however, not lost flesh. He had suffered no other symptom of disease of the nervous centres, excepting headache, and he still retained a florid complexion. Altogether, the case was a very puzzling one.

On December 2d, attention was attracted to a new feature, by the man stating that he had pain in the right nostril. On inspection, the nostril was seen to be occupied by a growth consisting of numerous soft polypi, which quite filled its upper part, and the lowest of which hung within half an inch of the nasal opening. The left nostril was free from the disease, but was occluded by the nasal cartilage, which had been bulged over so as to touch the opposite side. It was now remembered that the man had always carried his mouth a little open, and, on being questioned, he admitted that he had long done so, from a sense of obstruction in his nose. Mr. Hilton, as surgeon to the institution, was now asked to see the case, and extracted at once some large masses of polypus. No great improvement resulted after the first operation; a fortnight later, however, a second was performed, and a yet larger quantity removed. The following note was made a fortnight subsequent to the last. The tongue is quite moist in all parts, it being more than two hours since he drank any fluid. The position where the dry streak formerly was is still marked by the remains of the transverse fissures. For a fortnight past he has been able to breathe freely through his nose, and has had no annoyance either from headache or dry tongue. He feels quite well, is much delighted with his cure, and is intending to return to work.

There can, we think, be no reason for doubt as to the correctness of the opinion, that in the above case the dry tongue and the headache

were really caused by the nasal obstruction. The way in which they persisted, in spite of all treatment, until that obstruction was removed, and in which they vanished immediately after its removal, appear to be conclusive on that point. In explaining their occurrence, however, we must allow somewhat to the peculiar constitution of this patient. Some people have habitually deficient secretions, and suffer from parched mouth from much slighter causes than others. No doubt in this instance the man was peculiarly susceptible, his habit of body being what would be popularly termed full and inflammatory. Nasal polypi, however large, or even if occurring in both nostrils, do not usually cause dry tongue, or any other serious symptoms; indeed, Mr. Hilton, whose experience in these cases has been very extensive, was at first very doubtful whether such could be their origin in the present instance. Admitting, then, that the case illustrates a very rare occurrence, yet it does not, on that account, lose its interest and importance to the practical physician. If so marked and such persistent symptoms may now and then be caused merely by obstruction of the nasal passages, it is but fair to presume that in less degrees the thing may occur more frequently. The moral of the narrative is an evident one, viz., *in all cases in which dryness of the tongue or headache occur without apparent cause, examine carefully as to the patency of the nares.*

ART. 79.—*On the extraction of Foreign Bodies from the Œsophagus.*
By M. NELATON.

(*New York Journal of Medicine*; *Dublin Medical Press*, March 14, 1855.)

M. Nelaton has collected with care the various modes of procedure for the extraction of foreign bodies arrested in the œsophagus, and he examines in particular the mode of extracting fish-hooks. In speaking of œsophagotomy, this skilful surgeon proposes a proceeding, which, according to him, is simpler than any other operation. Instead of making a lateral incision, M. Nelaton divides the integuments in the median line, as is done in tracheotomy, but making a more extended incision; he then separates, to the same extent, the sterno-hyoid muscles, so that they can be drawn apart by blunt hooks, or if necessary divided transversely, in order to give more space; that done, the isthmus of the thyroid body is laid bare; beneath it is passed a blunt needle, carrying a double thread, in order that two ligatures may be applied: between the two ligatures, the isthmus of the thyroid is divided. The trachea being thus laid bare, the left lobe of the thyroid is separated from it by a blunt instrument, keeping at the same time close to the trachea; at the bottom of this cleft, between the trachea and thyroid, the œsophagus is necessarily found, and is to be opened in the ordinary way. By acting thus, all risk of wounding the large vessels of the neck is avoided, and the operation may be performed without injuring the thyroid arteries.

(B) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 80.—*The Yoke-splint.* By Dr. HUNTON.

(New Hampshire Journ. of Medicine ; and Dublin Med. Press, March 21, 1855.)

No special description is given of this splint, but its nature and mode of application is sufficiently expressed in the name. It is recommended for the treatment of fractures of the clavicle, neck of the scapula, and acromion process; and its advantages, we think, are self-evident. Dr. Hunton first used this splint in 1830, and his account of this case will serve to make matters clearer :

I was called to a Mr. Allard in the town of Johnson, Vermont, twenty-one years ago, and was informed that he had dislocated his arm at the shoulder. I looked at the patient, and saw the usual depression in dislocations of the part. I placed my fingers on the deltoid muscle, and perceived the soft yielding usual in such cases, but did not examine thoroughly, as I ought in any similar case, but pronounced it a dislocation and prepared to reduce it. When I raised the arm I felt and heard a crepitus, which corrected my diagnosis. In order to avoid exposing my carelessness, I did not enlighten my assistants, but called for rags and bandage, made a pallet of the rags for the axilla and the figure of eight bandage, and dressed it (as I supposed), *secundum artem*.

I returned home in the evening, three miles, reflecting—this is not the best way to dress a fracture of the cervix scapula. After retiring to bed, I could not sleep, but pondered three hours by the clock, on the fracture I had lately done up, and thinking there is a better way. The thought at length came into my mind to use a splint resembling a sap-yoke; I ruminated until I became satisfied that this mode would be preferable to any other I had seen. Next morning I visited my patient, procured a mechanic, and had him adjust a splint according to my direction, have it made to sit easy on the shoulders, stuffed or lined with cotton batting, the length to jut a trifle beyond the shoulders, with a pin near the ends of the splint. Firstly, apply the splint to the shoulder, then put a double kerchief under the axilla of the sound arm, and tie it over the splint, the pin keeping it in place.

The next step is to tie another kerchief under the fractured arm, and bring the top of the shoulder in contact with the splint; place the arm in a sling, and confine it to the side, and the work is done and well done. There are no tight bandages, or unyielding, tight-fitted splints, to cause swelling or inflammation. Lotions or any other applications are seldom required.

This splint is as well adapted to fractures of the acromion process and clavicle, as to those of the cervix scapula. If either of the fractured ends of the clavicle protrude upwards, which is usually the case, lay on a compress, and cause by the splint the pressure required. If extension is required to keep the clavicle in place, insert a small kerchief or a piece of webbing in the axilla, and tie it outside the pin, on the end of the splint, and make the extension which is necessary.

ART. 81.—*Case of amputation above the shoulder-joint.*
By Dr. GILBERT, of Pennsylvania College.

(*Philadelphia Medical Examiner*; *Dublin Medical Press*, Dec. 6, 1854.)

This is the second operation of the kind which has been performed, the operator in both cases being the same surgeon. In both cases the disease was medullary cancer, and in each the patient sank speedily. The first occurred in 1847, and is reported in the '*American Journal of Medical Science*' for that year. The present case is thus related:

CASE.—I was requested to visit on the 29th of June, 1854, David Thompson, æt. 24, a carpenter, residing in Nineteenth Street, above Fairview, in this city. Saw him two days subsequently, when he gave me the following history of his case. About the 1st January last, he slipped and fell on the ice, and to break the fall, threw his right arm back and fell upon his hand, which resulted in severe sprain of the shoulder-joint. There being neither fracture nor dislocation, he did not apply for medical advice, but made such applications as are common in domestic practice. During this period he continued to work at his trade, without, however, being able to use the shoulder-joint freely. Motion at the joint becoming more and more abridged and painful, he applied to a surgeon for advice about seven weeks after the receipt of the injury. At this time there was considerable tumefaction of the shoulder. His medical adviser requested him to keep the arm at rest, and used counter-irritants to the tumour, and gave sorbefacients and other remedies internally. The swelling, however, gradually increased, the shoulder became more painful when motion of the joint was attempted; and during the night a dull heavy pain was experienced, even when at perfect rest.

I made a careful examination, and found a large globular tumour involving the ends of all the bones forming the joint, extending as low down as the insertion of the deltoid muscle, encircling the humerus, obliterating the axillary cavity, and resting upon the chest opposite to the articulation. The surface of the tumour was evenly rounded and free from nodulation; the integument covering it was unattached, and normal in appearance, except a little abrasion of the cuticle and discoloration, produced by the counter-irritants used. The body of the tumour was firmly elastic, without the least fluctuation, as if homogeneous in structure. There was some tenderness on pressure, especially anterior to the acromion, where the principal part of the injury was sustained. By measurement, the circumference of the tumour, taking the axilla and acromion as points, was found to be $19\frac{1}{2}$ inches, whilst the sound shoulder measured $13\frac{1}{2}$ inches. The horizontal arc of the body of the tumour from the chest anteriorly to the chest posteriorly was $14\frac{1}{2}$ inches; on the sound side 9 inches. A line coinciding with the axis of the lower two thirds of the shaft of the humerus continued upwards through the tumour would have emerged, as near as we could judge, about $1\frac{1}{2}$ inch anterior to the acromion process, showing that the upper third of the humerus which was involved in the tumour had undergone change of form. In tracing the bone up into the tumour, increase in its circumference was clearly evident, and then it became blended with the general mass. When the tumour was steadied with one hand, the lower extremity of the humerus could be moved in all directions, so as to cause the line of its axis at the top of the shoulder to describe a circumference whose diameter was at least six inches, having the acromion as its centre.

The patient had been, up to this time, able to sit up, and even pass from room to room. Since the receipt of the injury there has been a gradual wasting of the fluids and solids of the body, his weight having become reduced from 170 lb. to 133 lb. His complexion is somewhat inclined to sallowness, but by no means cachectic; his pulse is 112, and quick; appetite and digestion variable; and his alvine evacuations are irregular. There has not been any cough, and the physical signs declare the thoracic organs to be in a healthy condition. Prior to this accident, from his earliest years, he enjoyed uniform and uninterrupted good health, and never had a single symptom of scrofulous or any other constitutional disease. The patient is the youngest of thirteen children, none of whom had struma or any form of cachectic disease. His father is still living, at the advanced age of 76; his mother died, it is said, of carcinoma uteri, at the age of 63, when the patient was 17 years old. All his ancestors lived to a great age. His maternal grandmother died recently at the age of over 100. I ordered laxative pills to be taken at bedtime, and syrup sarsap. comp. with iodid. potass., in ordinary doses, three times a day. Locally, tinct. arnica montan.; which had been previously used.

June 3d.—Visited patient; find no change worthy of note; sleeps tolerably well; no pain in the shoulder when quiet; bowels were opened by the pills; appetite has improved. Continue treatment.

8th.—Pulse 108; bowels have required an occasional pill; appetite continues to be moderately good; forearm begins to be œdematous; skin over tumour is becoming brawny, in spots as large as a silver dollar; emaciation is evidently progressing; sleep disturbed; irritative fever at night. Continue treatment with grs. v of Dover's powder at bedtime.

11th.—Symptoms very much the same; tumefaction increasing; measurement to-day $21\frac{1}{2}$ and $16\frac{1}{2}$ inches; brawny spots enlarging; no adhesion, however, between the skin and tumour. At my request, my colleague, Dr. John Neill, was called in consultation.

12th.—Met Dr. Neill; found increase of the unfavorable symptoms; pulse 126; œdema of arm and tumour increasing; general emaciation progressing. Continue treatment.

13th.—No material change. Continue treatment.

14th.—Saw the patient in company with Dr. Neill. Finding that the case was progressing steadily towards a fatal termination, the propriety of performing the operation of amputation above the shoulder-joint was considered. It was agreed that the operation afforded the only hope of relief; but the decision as to the propriety of its performance was postponed. I visited the patient daily; found an aggravation of the symptoms, to which severe nasal hemorrhage was added; pulse 132 to 140; night sweats.

18th.—Met Dr. Neill; unfavorable symptoms progressing; softening of tumour commenced. It was agreed that the amputation ought to be performed, as it afforded the only hope of rescuing the patient from impending dissolution.

All necessary preparation being made, the operation was performed, in the presence of several medical gentlemen, in the following manner:

The patient was placed upon his left side, on a firm table, six feet long and two feet wide. Dr. Gobrecht (who was present), using Dr. Bond's instrument for retroversio uteri instead of a key, compressed the subclavian artery for which this instrument, on account of its long, bent stem, is admirably adapted. Dr. Neill took charge of the arm to be removed, and I took my place above, or rather behind the head of the patient. A mixture of one

part of chloroform to three of ether was administered. The operation was commenced by an incision made with a large scalpel, commencing at a point below the middle of the clavicle, and continued forward and downward to a point below the acromion; thence backward and upward, and outside the spinous process of the scapula to the middle of this process. The triangular flap thus formed was dissected up; an incision was now commenced at the posterior fold of the axilla, and carried up to the place of termination of the first incision. The muscles under the line of the last incision, as well as the supra- and infra-spinati muscles, which were laid bare by the dissection of the flap, were now all divided. The amputating saw was applied to the spinous process of the scapula, and this portion of the bone was sawn through obliquely, downwards and forwards, to the body of the scapula; and this was next divided above its neck; the clavicle was then isolated at its central point, and cut through with Hey's saw. A middle-sized catlin was introduced into the posterior incision, and rapidly carried under the coracoid process, and brought out between the divided ends of the clavicle, severing in its course the subscapularis, pectoralis minor and major muscles, blood-vessels, nerves, and integuments, so as to form the anterior flap; and the amputation was completed.

The subclavian artery was immediately secured by a firm ligature; but so perfect was the compression of this vessel that no blood was lost by it. Six other enlarged arterial trunks required ligatures. The remaining portion of the clavicle and scapula were approximated, and the upper triangular and anterior and posterior flaps were brought together over these, and secured by nine sutures and intervening adhesive plasters; lint wetted with cold water was applied, and the patient carried to bed. The anæsthesia was complete, and so successfully kept up, that the patient was totally insensible to suffering. Only about twenty ounces of blood, principally venous, was lost. Pulse, immediately after the operation, was 120; but in two hours after had increased to 140. Stimulants, anodynes, and fluid nourishment having been administered, it again came down to 122, and tranquillity, with sleep, took the place of the restlessness which was present soon after the operation.

I might here add the notes which were taken during the after-treatment, but they would occupy a large space, and add very little that is interesting. There seemed to be a constant tendency to sinking of the vital powers, which in the treatment demanded the free use of stimulants, tonics, anodynes, and a nutritious and easily digested diet. Thus the contest was maintained for a period of eight days after the operation was performed, when the patient sank quietly in death. A post-mortem examination was not permitted.

A section of the shoulder, through to the bone, revealed those changes which are consequent upon the growth of a medullary cancer. The deltoid was thin and pallid, and tightly stretched over the tumour, like a fascia; all the tissues exhibited the effects of pressure, distension, and infiltration. The tumour was of that form which Paget characterises as soft medullary cancer. The interior was composed of a pulpy, brain-like material, rendered somewhat of a pink colour by its great vascularity. The deeper portion, that nearest the bone, was softened almost to fluidity; the head and neck of the humerus were entirely absorbed, and loose fragments very much eroded, were lying in contact with the upper end of the shaft. The microscopic characters were such as might have been anticipated with such physical conditions. The cells were very large and numerous, and so filled with oil-globules that the nuclei were often obscured.

ART. 82.—*Case of Phrenic Hernia.*

By Dr. COPEMAN, Physician to the Norfolk and Norwich Hospital.

(Assoc. Med. Journal, March 2, 1855.)

Cases of this kind are of great rarity, and Dr. Copeman has therefore been at the trouble to collect some of the cases which have been put on record, and to append them to his paper. The case itself is related as follows :

“The brief history is, that I was summoned to a patient, aged 38 years, whom I found in a dying state, with great dyspnœa, cold extremities, and an almost imperceptible pulse. She was a fat woman, of middle height, the mother of several children, and again pregnant. She had for several years been the subject of umbilical hernia, about the size of a large orange, and caused by exertion during one of her labours. Four days before I saw her, she had been attacked with pain in the left shoulder and arm, extending to, and fixing itself in the region of the stomach. Vomiting soon followed, and became more and more frequent, until everything she took was almost immediately returned. There was no alvine evacuation, but the matter vomited was not stercoraceous. Next came fixed pain in the left side of the chest, and hurried breathing, terminating in death.

“On examining the body, it was found that the peritoneum was perfectly healthy, and there was no constriction in the situation of the umbilical hernia. A considerable portion of the stomach had passed upwards through an opening in the diaphragm large enough to admit three fingers, about two inches anterior and to the left of the natural œsophagean opening. Probably more than a third of the stomach, together with a portion of omentum, both very much inflamed, had escaped through this opening, and excited severe inflammation of the pleura, in the cavity of which they lay. The left side of the chest contained a considerable quantity of serum and recently formed lymph; and the lung, though healthy, was compressed into a very small space. The edges of the abnormal opening in the diaphragm were smooth, and the omentum was firmly adherent to a part of the ring.”

Afterwards Dr. Copeman proceeds to say :

“The diagnosis in the present case was very difficult, owing to the existence of several complications. In the first place, the woman was the subject of a large umbilical hernia of several years’ standing, produced, it was said, by violent efforts in one of her labours. Constriction of the intestines in this situation would have accounted for her vomiting, constipation, and death; and it was very natural to look to such a tumour for the explanation of the symptoms. But, on the other hand, there was no tension of the abdomen, no great pain on pressure, no peritoneal inflammation, and the hernia was reducible. Some other cause was therefore to be searched for. Now, it was discovered that the woman was four months or more gone in pregnancy, and the day before her death there were attempts at abortion, with some hemorrhage, and a partially dilated state of the os uteri. Dis-

orders of pregnancy have been known to occasion obstinate, and even fatal vomiting. Did the symptoms here depend upon death of the foetus, disease of the ovum, or anything else producing uterine irritation? Such a view might explain the constipation, sickness, and exhaustion; but there was also a fixed pain below the heart, difficulty of breathing, and total inability to lie on the left side. Again, was gastritis the cause of the mischief? There was pain in the region of the stomach, great sense of heat and pain in the stomach as soon as anything was put into it, and no relief until it was rejected; considerable thirst, and a frequent, failing pulse. The tongue, however, was of a different character from what is usually observed in genuine gastritis; and there was obstinate constipation. None of these views appeared separately to afford a satisfactory explanation: but the *post-mortem* examination cleared away the mystery, and demonstrated the inutility of the remedial measures that had been employed. Would it have been possible, without the above-mentioned complications (which served only to mislead), to have ascertained the real nature of the case in time to make the reduction of the hernia effectual for the recovery of the patient? And could any method of treatment whatever have effected the reduction of the hernia? With respect to the first question, I think the nature of the disease could not have been ascertained, or perhaps even suspected, *until after the mischief in the chest*, indicated by the fixed pain and difficult respiration, *had taken place*; and that of itself was extensive enough to destroy life. For the pain and dyspnœa, superadded to the symptoms of strangulation, were the index to the *locality* of the disease. With respect to the second question, great doubt must necessarily be entertained. Samuel Cooper says the disease is quite out of the reach of art; and I can scarcely imagine it possible, even in these days of heroic abdominal surgery, that any operative proceeding could have been safely or effectually undertaken. Still the history of cases implies that, in some instances, phrenic herniæ have occurred in a slight degree at intervals during many years, giving rise to pain, vomiting, and more or less dyspnœa, and then have suddenly disappeared with the symptoms they occasioned; until at last a portion of intestine or other viscus too large to return to its natural situation has passed through the diaphragm and been strangulated, or has caused irreparable mischief in the organs within the chest. These repeated spontaneous reductions would rather lead to the hope that, if phrenic herniæ *could* be ascertained with certainty in an early stage, something might be done to favour the return of the protruded parts; and when such a disease is suspected, the patient should be placed in an upright position, the warm bath and the usual methods of favouring the reduction of hernia adopted; and possibly the taking into the stomach some weighty substance, as quicksilver, which might act by gravitation, would add a little to the probability of restoring the displaced parts to their natural situation. It is, however, unfavorable to this suggestion, that what is taken into the stomach finds its way into the protruded part, perhaps during the action of vomiting; and, in the present case, the part of the stomach contained within the chest was full, that within the abdomen being empty, or nearly so; and this circumstance would

also render nugatory any assistance in diagnosis that might otherwise be expected from percussion."

ART. 83.—*On the value of Cough-impulse as a symptom of Hernia.*
By

(*Medical Times and Gazette*, Dec. 16, 1854.)

"Several instances have recently come under our notice," writes the Reporter of Hospital Practice in the journal quoted, "illustrating the value of the knowledge of the fact, that *in tightly strangulated hernia no cough-impulse is ever felt*. In all the reducible or merely incarcerated forms, the information derived by making the patient cough, is so great and so conclusive, that it is not surprising that attempts should be made to apply the same test to cases in which strangulation exists. Entire forgetfulness of the condition of the bowel could, however, alone induce any expectation that impulses generated within the abdomen would be communicated to it. In all cases in which the constitutional symptoms of strangulation are present, the diagnosis as to whether the tumour be hernial or otherwise, must be made without reference to its movements during coughing. Much valuable knowledge on other points may, however, be yet derived from the test. If, in the certainty from other signs, that the tumour is really a hernia—there be not the least impulse, a fair inference may be drawn that the stricture is tight. If impulse be felt in the upper part of the neck of the tumour, and not in other parts, the seat of stricture may be accurately determined, being, that is to say, just below the spot where the perception of impulse is lost. On this latter point Mr. Luke has, in his paper 'On the Operation for Strangulated Hernia,' 'Medical Gazette,' 1839-40, insisted strongly, indeed, we believe he was one of the first to direct attention to its value. With regard to the absence of cough-impulse in strangulated hernia generally, our surgical manuals have, for the most part, neglected to make any observation respecting it, while in some, from the terms used, it might be inferred that it was an ordinary symptom. It is still not infrequent to see cases reported in which its absence is noted as having been a source of difficulty and doubt. Most deeply would it be to be deplored should such absence ever lead to delay in performing the operation, since it is, in fact, a conclusive indication of its necessity. We have not made the statement printed in italics above, without first instituting much inquiry among those of most experience, and also availing ourselves of every opportunity which has of late occurred for acquiring data in respect to it. The following sentence in its support we quote from a note by Mr. South, in his edition of Chelius: 'I have on more than one occasion heard surgeons of eminence speak of dilatation of a strangulated rupture on coughing, which, I must confess, I think impossible, if the rupture be more than incarcerated.'"

ART. 84.—*The inadvisability of closing the wound by first intention in operations for Hernia.* By M. NELATON.

(*Gazette des Hôpitaux*, No. 8, 1855.)

M. Nelaton is of opinion that every facility ought to be afforded for the escape of any matters which may be formed in the deeper parts of the wound after operations for hernia; for if this provision be not made, the same matter is apt to burrow and excite phlegmogenous mischief in the cellular tissue of the neighbourhood, particularly in the iliac fossa. M. Nelaton believes that he has lost two patients from this cause, and that many other patients who were supposed to have succumbed from peritonitis, but who presented no signs of peritonitis after death, did in reality die from the same cause.

ART. 85.—*On some unusual circumstances connected with the operation for Strangulated Hernia.* By Mr. QUAIN, Surgeon to University College Hospital.

(*Medical Times and Gazette*, Jan. 6, 1855.)

The unusual circumstances described in the following cases are the presence of certain anomalous cysts or bags, which Mr. Quain is inclined to regard as old hernial sacs, which have become closed at their necks in the canal. Mr. Quain relates four cases:

CASE 1.—This case is one of inguinal hernia, occurring in a gentleman of middle age, who, from having been a corpulent person, had lately been much reduced in bulk. The patient had not previously any symptom of hernia, and he was not conscious of the presence of an enlargement in the groin before the present attack. He was seized, while walking in one of the parks, with pain and sickness, and he had suffered more or less for three days, when my assistance was required by his medical attendant, Dr. Jones.

The tumour, which had fully the size of an egg, was found above the inguinal groove of the right side, covering the internal inguinal ring and the inguinal canal. It was entirely clear of the inguinal groove—without any neck or elongation—extending downwards from the abdominal wall to the thigh; it had therefore none of the position of a femoral rupture. Regarded as an inguinal hernia, there was one peculiarity worthy of notice—namely, that the mass admitted of being grasped between the fingers more completely than is usual in cases of bubocele—almost as completely as a mass of enlarged glands in that situation might be.

After the integuments had been divided, a tumour was met with embedded in the subcutaneous fat, the most prominent part reaching very nearly to the skin. In the first instance, not being prepared to meet with a hernia till after the tendon of the external oblique muscle had been divided, it occurred to me that the tumour now in view might be a fatty one, and that the hernia must be sought for beneath it. But, upon examination, it proved to be the hernia itself, protruded through the external abdominal muscle. The edge of the opening in that structure being notched at its upper part, the bowel was readily returned to the belly, without division of the sac, or any interference with the investments of the hernia. The patient did well; but, upon his making forced exertion, the bowel was protruded again in the same place in a fortnight after

the operation. Now, however, it was easily replaced, and was retained with a compress and bandage, which were to be kept on till a proper truss should be procured.

CASE 2.—In another operation, like that in the preceding case, very recently performed, for strangulated inguinal hernia, in a young robust female, a patient of Mr. Coghlan's, I found a considerable part of the protruded mass—which was of large size, and composed of omentum consolidated into a thick lump, with but a small knuckle of bowel—separated from the subcutaneous fat by only a thin transparent membrane, while the rest, the outer part of the rupture, was still bound down by the strong tendon of the external oblique muscle.

In the latter case it seemed obvious, from its altered condition, that the protruded omentum must have lain long in its unnatural position, the symptoms of strangulation having been induced by the recent descent of a knuckle of intestine; and the partial projection of the mass through the tendon of the abdominal muscle, was in all probability the result of the gradual separation of the fibres by pressure from beneath. But the approximation of the hernia to the surface in the former case is not to be accounted for in the same way, for in it there was no omentum, and the tumour was only recently formed. In that (the first case), it might be that the protruded bowel had followed after one of those small lumps of fat which occasionally form over the peritoneum, and gradually find their way towards the surface, drawing behind a tube of the serous membrane, which is then ready to receive a hernia. It must be observed, however, that I have not hitherto seen anything bordering on that condition, except in the usual place of femoral hernia; and, on the whole, I believe it to be most probable that the tendon of the external abdominal muscle—enfeebled as I have occasionally seen it in the same situation, by the white separation of its fibres, which are then held together only by thin transparent membrane—had given way to the hernia opposite to the abdominal ring, instead of compelling it to follow the course of the inguinal canal to the external ring, as happens in an ordinary case.

CASE 3.—A female, aged upwards of 70 years, was admitted ten days ago into the hospital with the common indications of strangulated hernia,—vomiting and constipation, together with a tumour in the groin. It was ascertained that she first had rupture in the same place more than forty years ago, and that she had been troubled with a return of it from time to time, but had not required active surgical interference, though she had not worn a truss. The tumour lay immediately below the groove of the groin, upon the thigh at its middle, and spreading inwards from the middle towards the pubes. It had the size of an orange, but flattened; was flaccid, and painless to pressure. The manipulation of the taxis had no effect whatever in reducing the size of the mass, which resembled, in most respects, an incarcerated hernia,—that is to say, a hernia which, though not reducible, was not strangulated. From this circumstance an operation was not at first suggested. Under the use of opium the symptoms were much abated, and for two days the patient was troubled only with belchings of air; but on the third day from the first occurrence of the symptoms, as vomiting returned at the same time that the constipation still continued, and some abdominal tenderness had arisen, the operation as for strangulated hernia was performed. After an attempt had been made ineffectually to reduce the tumour, when the fibrous structure on the inner side of the neck of the hernia was divided, the large sac which had been felt upon the surface was laid open. It contained serum, but no hernia. Satisfied, however, that a hernia was the most probable cause of the suffering of the patient, and mindful of a former case to be presently noticed, I made a careful

examination in the cavity, in the direction of the femoral ring. There was no communication between it and the interior of the abdomen. Instead of that, a narrow circular depression, about half an inch in diameter, was found in the situation of the femoral canal. Within that depressed circle, the membrane, which there felt elastic, was divided, and a knuckle of bowel came into view. The bowel was of dark-brown colour, and was separated from its proper sac only by recently-effused lymph. The operation was completed in the usual way. Some days afterwards, while the patient was going on favorably as regards the hernia and its effects, she was seized with a severe attack of bronchitis, under which she sank.

The matter of chief importance in this case was the fact of the strangulated bowel being altogether masked by the large serous bag, which, not partaking in any degree in the inflamed condition of the hernia, was calculated to mislead as to the real nature of the cause of the patient's suffering.

CASE 4.—A few years ago a case was sent to the hospital, by Mr. Walter Bryant, which agreed with the preceding case, in the fact of an unusual serous bag being present, and yet differed from it in some not unimportant particulars. A female, æt. 42, was attacked with violent vomiting, and during the forced straining a tumour was formed at the right groin. She had a hernia several years ago in the situation of the present swelling, and she had worn a truss; but the instrument was not worn regularly. The tumour, which was the size of a walnut, had the usual position and all the characters of a femoral hernia. It was nearly round, was prominent, and tense. To the touch, it was remarkably tender,—so much so, that an attempt to effect the taxis was productive of great pain; and at the same time the abdomen generally was tender. The operation was therefore immediately performed.

The whole prominence was found to consist of a thin membranous bag, filled with bloody serum and nothing else. The inner surface of the membrane was of dark-brown colour, and was highly vascular. There was no communication with the abdomen. Suspecting that the inflamed condition of the little serous cavity, though it should be the cause—as in all probability it was—of the tenderness of the tumour, would not account for the general symptoms, and that there still might be a hernia, I incised a slightly prominent part of the sac at its upper end, and came upon a small piece of strangulated bowel, invested by and immediately in contact with a proper sac. It may be mentioned that a large quantity of deeply coloured serum escaped from the cavity of the peritoneum in this case after the reduction of the hernia, the discharge being encouraged by pressure of the hand over the abdomen. The patient had a severe attack of peritonitis, but she did well.

“These are the only examples of hernia, complicated in the way described, that I have met with in practice. The complication must be a very rare one, for Sir A. Cooper seems not to have met with any case of the kind, though he must have seized on every unusual circumstance within his reach, for the purpose of his work on hernia; and Mr. Lawrence does not make mention of the same condition having occurred under his own observation. Nevertheless, a few cases have been recorded which may be noticed briefly, in order to show the various disposition of the supplemental sac.

“A case is recorded in the 4th volume of the ‘*Medico-Chirurgical Transactions*,’ by Mr. Chevalier; and a few others are described by Breschet (‘*Thèse de Concours sur la Hernie Fémorale ou Mérocèle*’) from the practice of Dupuytren. In Mr. Chevalier’s case, which occurred in St. George’s Hospital, in the practice of Mr. Gunning,

John Hunter assisting him in distinguishing the condition of the parts, the hernia, with its proper sac, was pendulous in the unusual serous bag; while the arrangement in Dupuytren's cases seems to have resembled that of the second case which I have narrated, except, perhaps, that the presence of a hernia was in them more apparent than in mine, when the first sac was opened. Now, where the hernia is actually under view in the first-opened sac, the only mistake likely to be made is that of taking the proper sac for the bowel; but where the hernia is to be sought for after the first sac has been opened, the nature of the case may be altogether overlooked; and the oversight is the more likely to occur should the outer sac happen to be large, as in the case (No. 3) which I lately met with."

ART. 86.—*On Syphilitic Strictures of the Rectum.*

By M. GOSSELIN.

(*Archiv. Gén. de Méd.*, Dec., 1854.)

Strictures of the rectum are not very common, and their causes are not always very obvious, but, according to M. Gosselin, syphilis is by far the most common cause. In this the author adopts what is a general opinion in France. In M. Gosselin's opinion, however, these forms of stricture are not the consequence of constitutional syphilis, as others suppose; but the direct result of primary chancres about the anus. As to the characters of these strictures, we learn from M. Gosselin, that they are seated very close to the anal orifice, and that they are usually accompanied by condylomata and purulent discharge. The bowel is usually more or less ulcerated beyond them, and upon this accompaniment the chief part of the mischief depends. As to treatment, we learn that constitutional measures are not sufficient, and that dilatation and incision are more effective than any other local measures, repeating these when necessary, for the stricture is almost sure to reappear again in time.

ART. 87.—*On Fistula in Ano.* By Professor SYME.

(*Lancet*, Jan. 20, 1855.)

After mentioning some well-known points in the surgical history of this affection, Mr. Syme proceeds (we quote from a clinical lecture):

About thirty-five years ago, a French surgeon, M. Ribes, called the attention of the profession to an important point in the pathology of fistula; for while surgeons commonly regarded it as of three characters—viz., blind external, when it opened only at the surface; blind internal, when it communicated with the rectum, but had no opening externally; and complete, when both an external and an internal opening were present—he affirmed that both openings always existed, and that the idea of blind external fistula had proceeded from an error of observation respecting the position of the internal aperture, which had been always sought for at the top of the sinus, whereas he showed it to be placed within one inch, or at most an inch and a quarter, from

the orifice of the rectum, however high the sinus might extend; and he also pointed out, that provided the incision included the internal orifice, it was sufficient for the cure of the disease. Here you see an improvement pathological and practical. The operation caused very little bleeding, no subsequent dressing was required, and the effect was certain.

It happened that my friend and colleague, Dr. Christison, being in Paris in 1821, became acquainted with the observations of M. Ribes, and on his return here mentioned them to me, at that time house-surgeon to this hospital, and directed me to the 'Archives G n rales,' in which they were published. I took every opportunity of testing the truth of this new and startling statement, and found it to be substantially correct. On referring to M. Ribes' paper, however, the explanation which he gave of the origin of fistula appeared to me unsatisfactory. He supposed that it always began by ulceration of the mucous membrane of the rectum, after which a portion of the contents of the bowel escaped into the surrounding textures, and gave origin to abscess there; but I noticed that on opening the abscess no internal aperture was to be discovered by the most careful examination, and that the matter evacuated was not mixed with f culent or gaseous material, but simply a small quantity of well-digested pus. I also observed that a fistula of some days' (or even weeks') standing, had, generally, no internal opening, and it therefore appeared to me, that the mucous membrane of the rectum, although thinned and denuded by the abscess, did not give way until after the matter had found vent at the surface, and the external orifice had closed to some extent, so as to confine the pus, and thus cause ulcerative absorption. This, however, is a matter of curiosity, rather than of practical utility. Notwithstanding the importance of the facts observed by M. Ribes, and the publicity which he gave to them, and notwithstanding the efforts which have been ever since made here by myself, and, for aught I know, by others elsewhere, to extend the knowledge of them, yet the greater number of surgeons for a long time obstinately refused to admit their truth, and to modify their practice accordingly.

In 1836, about sixteen years after the publication of M. Ribes' paper, Sir B. Brodie wrote thus: "If the internal opening be at the upper extremity of the sinus, the operation is simple enough. You introduce the forefinger of one hand into the rectum, and with the other hand you direct the curved, probe-pointed bistoury through the external opening into the sinus, and afterwards through the internal opening into the rectum; then, keeping the probe point in contact with the forefinger, you draw the instrument downwards, dividing all the parts below it. If the internal opening be anywhere in the middle part of the sinus, you proceed in the same manner, but a second incision is then necessary, to lay open the upper extremity of the sinus. The probe point of the bistoury must be made to penetrate the tunics of the rectum before this second incision is made. If the sinus has no communication with the rectum, the tunics of the latter must be penetrated as near as possible to the upper extremity of the sinus, the incision being made afterwards in the manner which has been just explained."

In 1837, I published a treatise on 'Diseases of the Rectum,' in which I explained very fully the views of M. Ribes, and also pointed out the error into which I believed he had fallen with regard to the origin of the disease. In 1844, Sir B. Brodie writes: "The first thing to be done is to find the inner opening. I do not say that you will always succeed in finding it—certainly not the first time; but you will rarely fail if you look for it in the right place. Formerly I often failed, and for this reason—I did not know where to look for it. I used to think that it was to be found in the upper part of the sinus, but it is never found there if the sinus runs high up. You must search for it immediately above the sphincter muscle." Sir Benjamin does not say what his authority for this statement is, so we must suppose it to be original; but, if so, it is curious that, whilst discovering the truth made out by M. Ribes, he has also fallen into his error of supposing that the disease always begins by ulceration of the mucous membrane. For he says: "I believe that this is the way in which fistulæ in ano are always formed—namely, the disease is originally an ulcer of the mucous membrane of the bowel, extending through the muscular tunic into the cellular membrane external to the intestine, and I will state my reasons for entertaining that opinion. The matter is one of great interest as a question of pathology, but it is one of great importance, as I shall show by-and-by, in connexion with surgical practice. It is admitted by every one that in the greater number of cases of fistulæ in ano there is an inner opening to the gut, as well as the outer opening; and I am satisfied that the inner opening always exists, because I scarcely ever fail to find it now that I look for it in the proper place, and seek it carefully. I have, in a dead body, examined the parts where fistulæ had existed several times, and in every instance I have found an inner opening to it. This affords a very reasonable explanation of the formation of these abscesses; it is almost impossible to understand on any other ground why suppuration should take place in the vicinity of the rectum more than in any other part of the body, and why the cellular membrane there should suppurate more than cellular membrane elsewhere. Moreover, the pus contained in an abscess near the rectum scarcely ever presents the appearance of laudable pus; it is always dirty coloured and offensive to the smell—sometimes highly offensive, and occasionally you find fæculent matter in it quite distinct." Now this I deny, and appeal to the abscesses which you may have seen, or will see before long, and also to the distinct statements of the patients themselves.

The discovery of the uniform existence of an internal opening near the anus may be said to have perfected the operation, but in consequence of the old errors having been so long prevalent, the treatment has not hitherto been nearly so satisfactory as it should have been in the profession at large; and hence the explanation of the fact, that patients affected with fistula in ano, come here from all parts of the country, under the impression that the operation they are about to undergo is a very serious one, and involves long confinement to bed. The operation, though very simple in principle, and easy of performance, is still one that requires care and patience. Whenever you

examine a fistula of six weeks' or two months' standing, you must proceed on the supposition that an internal opening exists. The track that leads to it may be tortuous, but you must search carefully again and again, if you fail to find the aperture in the first instance, and be very slow to be persuaded that it is not there. A piece of lint is placed in the wound at the time of the operation, and the only other dressing required is washing the part occasionally with soap and water for a few days.

ART. 88.—Case of Ligature of the External Iliac for Femoral Aneurism.
By Professor MILLER, of Edinburgh.

(*Edinb. Medical and Surgical Journal*, Oct., 1854.)

This case presents some points of interest in the manner of operating, and in the subsequent progress of the tumour. It is also interesting as another instance of femoral aneurism successfully treated in this way.

William M'Cormack, a plumber, æt. 27, admitted into the surgical wards, Royal Infirmary, Edinburgh, under the care of Professor Miller, 27th December, 1853.

Upon examination, a large ovoid and circumscribed tumour is seen lying over the region of the common femoral of the left side, extending about three inches above, and two to two and a half inches below Poupart's ligament. There is a heaving pulsation in every part of the swelling, synchronous with the heart's impulse, appreciable by both the sight and touch, especially by the latter, when a very expressive thrill is imparted to the compressing hand. By pressure on the superior femoral artery below the tumour, the pulsation in the latter is increased, and a distinct "bruit de soufflet" perceived on auscultation. The integuments over the tumour are not discoloured; but a few enlarged veins, and the cicatrix of a bubo, are visible. At present there is no pain in the tumour, but there is more or less weakness, with numbness and cramps in the lower extremity.

About the 1st of September, 1853, the tumour first appeared in the form of a small swelling over the common femoral of left side; it was soft and compressible, but returned to its original dimensions as soon as pressure was removed. Distinct pulsation existed in it from the beginning, accompanied with cramps and numbness in the left lower extremity. The patient can assign no cause for the appearance of the tumour, except that his occupation of plumber has frequently required him to lift and carry heavy weights. A month after the appearance of the swelling, the patient strained himself in lifting some heavy weights, and immediately afterwards experienced a "racking pain" in the region of the tumour, which then for the first time assumed a reddened appearance, and continued in that state for some days. Since that period the swelling has gradually increased in size and hardness, preventing the patient from following his usual occupation so well as formerly. He had syphilis about eight years ago, but no mercury seems to have been used in its treatment. The general health appears tolerably good.

December 29th.—A consultation having been held, there was not the slightest hesitation in pronouncing the tumour to be an aneurism of the left common femoral artery.

January 14th.—Professor Miller proceeded to tie the external iliac artery. Upon the application of the ligature, the pulsation in the tumour immediately ceased, and it felt more elastic and soft. Four hours after the operation,

smart hemorrhage came on; the wound was opened up, and two vessels in the muscular wall were secured; it was then carefully sponged out, and again closed by stitches—the patient under chloroform. About six to eight ounces of blood may have been lost.

Vespere.—Pulse, 120; heat of skin, natural. Sol. Mur. Morph., $\mathfrak{z}\mathfrak{j}$, immediately, and to be repeated, if need be.

15th.—Passed a good night. Pulse 120, soft and compressible; no pulsation whatever in the tumour, and little if any change in the temperature of the leg. Strict antiphlogistic regimen has been enjoined; and the patient has been lying on his left side on a water-pillow, with his back raised and body flexed; the abdominal muscles are thus relaxed, and the discharges can escape freely from the dependent opening.

16th.—Passed another good night; pulse 130.

R Ext. Alcoh. Aconiti, gtt. v;

Aquæ Puræ, $\mathfrak{z}\mathfrak{v}\mathfrak{i}\mathfrak{j}$.

Ft. mist. de qua sum. coch. unum mag. secundis horis.

Vespere.—Pulse 112.

R Ol. Ricini, $\mathfrak{z}\mathfrak{j}$;

Aq. Cinnamom., $\mathfrak{z}\mathfrak{j}\mathfrak{ss}$. M. s.s.

Complains of pain in the wound, and has some flatulency; a slight discharge of blood and pus now coming from the wound; water dressing continued; no pulsation in tumour; limb warm and comfortable, and kept flexed and supported with soft pillows, wadding, &c.

17th.—Has no unfavorable symptom; has had his bed made, and looks cheerful and comfortable; bowels not yet opened, but there is a desire to pass a stool. Hab. Enema Commun. et repet. s.o.s. Soon after this the bowels were freely moved without pain or effort.

18th.—Has a slight cough, which gives pain in the wound.

R Tinct. Opii Camph., $\mathfrak{z}\mathfrak{j}\mathfrak{ss}$;

Mucilaginis, $\mathfrak{z}\mathfrak{i}\mathfrak{v}$. Mist.

Scillæ, ad $\mathfrak{z}\mathfrak{v}\mathfrak{i}\mathfrak{j}$, misce.

Sig. $\mathfrak{z}\mathfrak{j}\mathfrak{ss}$ quaque 3tia. hora.

Skin cool; free from pain; pulse 88; the discharge from wound much increased, with less blood and serum.

20th.—Continues well; stitches removed from wound; healthy discharge going on; skin moist and cool; bowels twice opened; pulse 80; and no pulsation has returned in tumour.

26th.—The ligatures, with the exception of the one upon the external iliac, have come away; patient is looking well, and begins to take nourishment.

February 4th.—Patient's recovery progressing rapidly; complains of slight numbness in left heel and sole of foot; the ligature upon the external iliac came away; it had, in all probability, been separated for some days previously. The tumour has begun to diminish in size; there has not been the slightest pulsation in it since the operation was performed.

20th.—Is gaining strength; has been ordered generous diet, with wine and porter; begins to sit up in bed. ■

March 2d.—Some irritability of the neck of the bladder; passed the catheter twice.

R Aq. Acet. Ammon., $\mathfrak{z}\mathfrak{j}$;

Spir. Æther. Nit., $\mathfrak{z}\mathfrak{i}\mathfrak{j}$;

Vin. Antim., $\mathfrak{z}\mathfrak{j}$;

Aquæ Font., $\mathfrak{z}\mathfrak{i}\mathfrak{v}\mathfrak{ss}$.

Sig. $\mathfrak{z}\mathfrak{j}\mathfrak{ss}$ quaque 3tia. hora.

4th.—Passes his urine freely now ; his appetite not so good.

R Quinæ Sulph., Extr. Aloes, āā ʒj ;

Extr. Gent. co., ʒij ;

Con. Ros., q. s.

Fiant pil. xij, quarum una ter in dies sumend.

Has risen from his bed for the first time since the operation, and moves about the ward by the aid of a crutch. The wound is almost entirely closed ; very little discharge now coming away ; tumour much diminished in size, and harder.

7th.—Has been taking rather too much exercise during the last three days. For the first time since the operation, a very slight thrill was felt in the tumour, which is somewhat enlarged again ; ordered to resume and retain the horizontal posture.

8th.—No thrill in tumour, which has again diminished in size.

28th.—Has kept his bed since the 7th ; a large quantity of healthy-looking pus is being discharged from the small opening in the wound.

May 4th.—Has left the hospital on leave of absence, for two weeks. Slight discharge still going on from the small opening in the wound ; keeps water dressing to it, and wears a flannel bandage as a support to the abdomen.

No thrill or pulsation of any kind (with the exception of what was referred to on March 7th) has been felt in the tumour since the time of the operation. A most careful examination of the parts was instituted twice daily, and if any such thing had existed, its presence would certainly have been detected.

At the present date, the patient is walking about, somewhat weak and lame on the left side, with occasional slight discharge from a small fistulous aperture in the centre of the abdominal cicatrix ; the tumour is almost gone, a thickness and fullness remaining in its site.

ART. 89.—*A case of partial Dislocation of the Ilium from the Sacrum without loss of life.* By Mr. SKINNER, of the Bengal Medical Service.

(*Indian Annals of Medical Science*, Oct., 1854.)

Injuries of this kind are not very common, and recovery after them is still more uncommon. Mr. Skinner says, indeed, that he has only been able to find two cases of the kind in the records of surgery.

CASE.—In November, 1853, a young man was thrown from a horse, which reared and fell backwards ; in falling, head, hands, and feet were in the air, and the only part of the body which struck the ground was the posterior part of the right hip bone, very close to the situation of the sciatic notch, and the part of the sacrum adjacent,—the fall not being directly upon the back, but inclined somewhat to the right side. Immediately upon touching the ground, the head of the right femur, as if from the extension of force to it, started from its socket, but was restrained from leaving it by the powerful and spasmodic manner in which the muscles surrounding the joint, but more especially the adductors, acted. Directly after the accident, there was an impossibility of either leg being separated from the other, even for a few inches, without being attended with excruciating pain near the pubic articulation ;—the stretching, and perhaps tearing of the adductor longus, brevis and pectineus muscles being the cause. In fact, the triangular space in the upper part of the thigh formed by these muscles, and more especially the adductor longus, was

exceedingly sensitive to the touch for many days. There was some little difficulty at this time in determining the exact nature of the injury, as the chief and greatest pain extended from the upper part of the sciatic notch, through the acetabulum, to the symphysis pubis, and if the right leg were slightly moved, on a few occasions a grating sound, like the cutting of cartilage or gristle, was heard, and pain felt at the symphysis pubis and just external to it. It was clear, however, that whether anything had occurred to the acetabulum or to the ramus of the pubis, the ilium on the right side had been thrust upwards and backwards, and possibly the sacrum forced a little forwards and downwards (by reason of the peculiar side fall), since the posterior, superior, and inferior spinous processes of the ilium projected upwards and backwards from a quarter to half an inch more than on the sound side. The coccygeal ossicles were jerked out of their places, since there is one situated on either side of the normal or longitudinal disposition of those small bones, just like the transverse bars of a cross. The extremity of the coccyx passes also more directly inwards, or rather inwards and upwards, between the tuberosities of the ischia than is usual. For some few days after the accident, the extremity of the penis was preternaturally sensitive to the touch, and even to the bed-clothes falling near it. For between two and three weeks there appeared an impairment of nervous power in the right thigh and leg, yet much more of muscular power, for, whilst lying down in bed, it was impossible to raise the leg one inch, and there was even difficulty in dragging it over the slightest pucker in the bed-clothes, without the assistance of the hand to raise the thigh and pull up the leg.

It need scarcely be added, that the pain suffered during the first month was intense in the extreme, and that which rendered it less bearable was the inability to lie, sit, or stand, in any one position, for many consecutive minutes. The only way of lying was on the back, it being impossible, through pain, to turn or attempt to turn to either side until five weeks after the accident.

The tuberosities of the ischia were exceedingly sensitive, and still continue to be so (Aug., 1854), in a slighter degree, after sitting upon a hard seat, as a cushionless chair, for half an hour. This is no doubt owing to irritation of the sciatic nerves, more especially the small branches of the lesser sciatic and the terminal sacral filaments distributed upon and around those parts. There is still pain in the sacro-iliac joint, and also just external to the symphysis pubis, in attempting to throw one leg across the other sharply and quickly. The ilium projects as much as it did at first; but the patient is now enabled to walk as well as he ever could, although not quite for so long a time.

The means of cure employed was simply rest upon a spring couch, as the legs and thighs required a continual change of position, and to be raised to ever varying heights to free the individual from pain. The position, however, which was by far the easiest, so long as it could be borne, was that of standing supported by crutches.

ART. 90.—*Sinuses of the Hip depending upon Exfoliations from the Pelvis.* By Professor SYME.

(*Lancet*, Jan. 5, 1855.)

The practical value of the following remarks is at once apparent. The remarks are part of a clinical lecture upon a case which is given at the end:

“If the treatment of diseases be interesting in proportion to the degree in which they affect the patient's comfort and admit of beneficial

interference, the case which we have now to consider seems deserving of attention. That the morbid derangement concerned is no trifling matter will appear sufficiently from the fact that the patient has come nearly 4,000 miles in quest of relief; and unless the results shall differ from those hitherto experienced under similar circumstances, complete recovery will be speedily accomplished, without any pain or other bad consequence of the means employed.

“It is here necessary that you should recollect the distinctions between necrosis and caries. In the former disease a portion of bone dies, and separates from the living substance, so that no obstacle to recovery exists after the exfoliation or detached piece escapes from the position where it is situated; but in the latter, the bone retains its vitality, and obstinately remains in a diseased condition, without any natural limit of duration, except the life of the patient or conversion of the caries into necrosis. It must further be recollected that the dense osseous substance which composes the shafts of bones is chiefly liable to necrosis, and that the spongy or cancellated texture is almost exclusively the seat of caries. Now, sinuses about the pelvis are unhappily met with very frequently as the attendants or consequences of disease in the hip-joint, vertebræ, or sacrum, where the disease, being of an incurable kind, and the part concerned not admitting of removal, any sort of treatment can produce no better effect than a very imperfect degree of palliation, and it has hence been usual to regard such cases as of a very hopeless character. But nearly thirty years ago there happened to fall under my notice a case which showed that such a judgment should not be passed as a matter of course, or without more caution and discrimination than had been supposed requisite. The patient was a young man, aged 28, who, for the preceding seven years, had suffered from sinuses about the hip and upper part of the thigh, which being regarded as proceeding from fistula in ano, had been so treated by the late Mr. George Bell and other surgeons, without obtaining the relief desired. He had then applied to quacks with no better success, and finally, abandoning all hope of recovery, had allowed the disease to pursue its course. It was a considerable time after this resolution that my assistance was asked. I found him extremely emaciated, and so weak that he hardly could leave his bed, with a large abscess of the thigh, and several sinuses about the hip, discharging matter profusely. Having opened the abscess, I examined the sinuses, and found that one, which opened in the fold between the buttock and thigh, led to the tuberosity of the ischium, in which there was a cavity containing an exfoliation of bone. I therefore dilated this sinus by incision, introduced my finger, and having found an opening between the origins of the extensor muscles, enlarged it by the bistoury, so as to obtain access to the interior, whence I removed a small bit of dead bone. The patient then quickly recovered, and ever afterwards enjoyed good health.

As there could be no doubt that the exfoliation had caused all the distressing symptoms of this severe and long-protracted case, it became very desirable to ascertain the origin of the evil, which could hardly be attributed to the ordinary influences of cold or external injury. Upon inquiry, it appeared that the patient had first ex-

perienced uneasiness after a day's employment in curing herrings, and that the discharge of this duty had required him to stand with his feet apart, alternately stooping and stretching his arms upwards to the full extent, subsequently to which he had felt a painful sense of fatigue in the back part of the thighs. It then occurred to me that the disease had originated from over-exertion of the muscles which arise from the tuberosity of the ischium, and that the bone with which they are there connected had suffered in consequence, so as to exfoliate, instead of being excited to præternatural growth, as Sir Astley Cooper, with apparently good reason, thought likely to happen, from inordinate muscular contraction. Several cases of a similar kind, which afterwards occurred, tended to confirm this suspicion; and in a paper on the subject ('*Edinburgh Medical and Surgical Journal*' for 1828) I thus expressed my sentiments in regard to the pathological explanation: "The history of these cases will, I hope, effect the great object of this paper, which is to excite a more discriminating diagnosis and active treatment of sinuses of the pelvis. As to the origin of the exfoliations, I will not at present say much. It seems very evident that they cannot result from the direct effects of violence, since, in all the cases detailed, the bone concerned was securely protected by its situation from any such injury. In all of them (if we except the first, where no information could be obtained as to the origin of the complaint) there was violent muscular contraction, and I am inclined to think that this may have been the exciting cause of inflammation and death of the bone. The subject is curious, and worthy of investigation, but of little importance when compared with the practical benefit which may result from a knowledge of the fact that sinuses of the pelvis sometimes depend upon loose exfoliations, which will not find their way out unassisted, but which may be readily removed artificially with the effect of a speedy and permanent recovery."

CASE.—The patient is T. C——, æt. 24, a blacksmith, in Toronto, Upper Canada. About a year and a half ago he was trying how far he could leap, when his right leg slipped as he came to the ground, and went out sideways from him. He felt shaken at the time, but did not experience actual pain until next morning, when the right thigh was so painful at its upper part that he could scarcely move: the pain was deeply seated, apparently in the very middle of the substance of the thigh, while the upper part of the adductor muscles was very tender to the touch. The pain continued for about two months, at first preventing him from working, and greatly crippling him, even to the end of this time. A lump then began to form at the extreme upper and inner part of the thigh, a little anterior to the tuberosity of the ischium, and the pain gradually subsided. This swelling remained in nearly the same state for twelve months, when, having attained the size of a hen's egg, it was opened by a surgeon, and discharged about a teacupful of matter. Three weeks afterwards another abscess of larger size formed nearer to the groin, and was followed by several others of smaller extent, which were poulticed, and allowed to open spontaneously, while he lay in the hospital of Toronto, with apparently little prospect of recovery. Two medical gentlemen who had been educated in Edinburgh then became acquainted with the case, and, having recognized its similarity to those pointed out by me as dependent upon exfoliation of the pelvic bones, advised the patient to seek my assistance. He

accordingly travelled to New York, crossed the Atlantic, and was admitted to this hospital a week ago (on the 30th of October). The patient is now before you. You observe that he is a well-formed, healthy-looking man, and that there is no curvature of the spine, or other sign of disease, either there or in the hip-joint. There are several sinuses, one in the groin above Poupart's ligament, and others at the junction of the thigh with the perinæum. Through one of the latter the probe passes towards the ascending ramus of the ischium, and there detects a loose piece of bone, which we shall now endeavour to remove.

Chloroform having been administered, Mr. Syme dilated the sinus by incision, introduced his finger up to the origin of the adductor muscles, and having there felt a small aperture, enlarged it by means of a probe-pointed bistoury. He then extracted the exfoliation in three portions, which, when put together, fitted accurately, and constituted a mass which was recognized as the inner margin of the pubic arch, the whole of which is concerned in affording attachment to the adductor muscles.

ART. 91.—*Notes on Lithotrity, with an account of the results of the operation in the author's practice.* By Sir BENJAMIN C. BRODIE, Bart.

(*Lancet*, March 24, 1855.)

These "notes" were communicated to the Royal Medico-Chirurgical Society, in a letter to the President, but as the published abstracts are inadequate, we must defer any detailed notice of them until the notes themselves are published in the 'Transactions.' In the mean time, we would merely say, that the experience of Sir Benjamin Brodie has led him to the conclusion that lithotrity, if prudently and carefully performed, is liable to fewer objections than almost any other of the capital operations of surgery, the cases to which it is not applicable being very few indeed, and chiefly those in which, from the calculus having attained an unusual size, the danger and difficulty of lithotomy are so great, that no surgeon would willingly, nor otherwise than as a matter of duty, undertake it.

ART. 92.—*On the treatment of Spermatorrhœa.* By M. TROUSSEAU.

(*L'Union Médicale*, Dec. 21, 1854; and *Edin. Monthly Jour.*, March, 1855.)

M. Trousseau thinks that the advantages of Lallemand's *porte caustique* have been considerably overrated, and that there are only certain cases in which its use is productive of benefit. It is very useful where chronic urethritis co-exists with the spermatorrhœa, but where that is absent, he thinks we ought to trust to modes of treatment more suited to the cause of the disease.

The excessive debility induced by spermatorrhœa demands our most serious attention. If, in serious cases, we find neither urethritis nor cystitis present; if we discover neither calculi nor ascarides, nor any other thing which can explain the persistence of the emissions, we ought to ask ourselves whether the disease does not depend upon a condition of the vesiculæ seminales analogous to the spasmodic state

of the bladder in certain forms of incontinence of urine. Puerile enuresis is not due to atony of the bladder, or to any undue accumulation of urine, but to a spasmodic condition of the bladder. The same phenomenon occurs in the vesiculæ seminales; and belladonna, which acts so beneficially in the case of the bladder, is also very useful in this other spasmodic condition. M. Trousseau prescribes accordingly in such cases, powders containing each 1 centigramme of the powdered root of belladonna, mixed with sugar. He orders one to be taken daily during the first week of treatment; two daily during the second, and so on until the patient experiences a sensation of dryness in the throat. At the same time he orders frictions of the perinæum, with an ointment composed of 10 grammes of the alcoholic extract of belladonna, to 20 grammes of axunge. If necessary, he also uses suppositories containing each 10 centigrammes of the extract.

M. Trousseau doubts the utility of cold hip-baths in this affection. They may do good the first time they are used, but although they may temporarily arrest venereal excitation in nymphomania and priapism, this calm disappears on the occurrence of reaction, and the evil is increased.

Heat acts in an opposite manner. Hence M. Trousseau believes that in cases where erotic feelings are conjoined with spasm of the vesiculæ seminales, heat is the best sedative which we can employ simultaneously with belladonna. The form in which he employs it is that of bags of heated sand, which he applies to the perinæum for a few minutes, morning and evening. The simultaneous administration of lupulin may be very beneficial; but, where we desire decided anaphrodisiac effects, M. Trousseau recommends, on account of the certainty and efficacy of its action, the bromide of potassium, in doses of 15 grs. to ʒss daily.

ART. 93.—*On the collodion treatment of Epididymitis.*

By M. RICORD.

(*L'Union Médicale*, Sept. 14, 1854; and *Edin. Monthly Jour.*, Dec., 1854.)

M. Ricord tried the collodion treatment, as proposed by Bonnafont, in thirty-eight cases of blenorrhagic epididymitis. And the following are the conclusions at which he has arrived:—

- 1st. Elastic collodion causes less suffering than ordinary collodion, but more than the other modes of treatment.
- 2d. It is not so efficacious a therapeutical agent as was imagined.
- 3rd. It does not allay the pain, nor effect a cure more promptly than other modes of treatment.
- 4th. Its action is principally manifested in engorgement of the sub-scrotal cellular tissue, and in inflammation of the scrotum itself.
- 5th. It is only a feeble mode of exerting compression.
- 6th. If collodion only acts through the medium of the cold resulting from the evaporation of the ether; the application of simple ether, or of cold to the scrotum, would answer equally well.
- 7th. It is not rational to believe that collodion can cure orchitis

and epididymitis simply by protecting the diseased parts from the action of the air.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 94.—*A new mode of removing the Head of the Humerus.*
By M. BAUDENS.

(*Rév. Méd.-Chir. de Paris*, March, 1855.)

M. Baudens prefaces the description of this operation by some general remarks on the subject. The shoulder-joint (he tells us) is the joint which is most easily excised, and no other joint gives such favorable results when so treated. Out of 14 cases which have occurred in his own practice, 13 have been successful,—a fact which proves that resection must be the rule, and amputation the exception, in cases of gun-shot wound of the part. In these accidents the operation ought to be performed without delay.

In operating after M. Baudens' plan it is necessary (1) to keep the head of the humerus in close contact with the glenoid cavity, and (2) to preserve the muscular fibres and nerves. Thus the flap operations are rejected for those by the simple incision; but this incision is not made on the outside, as by White, or in the full front, as by Percy and Larry, but *on the inside*. This locality is preferred (1) because the head of the bone is most superficially placed in this position, (2) because it can be exposed to the full by prolonging the simple incision into the space between the acromion and coracoid process, and (3) because it is more easy to separate the muscles from their attachments to the tuberosities from this point. The operation has five steps:

The first step.—The arm being slightly turned outwards and backwards, the point of a small amputating knife is to be plunged in on the outside of the coracoid process, and immediately under the summit of the head of the humerus; then the wrist is to be depressed, and an incision of ten or twelve centimetres in length is to be made in the longitudinal axis of the humerus, the point of the knife being always kept in contact with the bone.

The second step.—If the lips of the incision (which are formed from the thickness of the deltoid muscles) contract so as to prevent the exposure of the head of the bone, some of these muscular fibres are to be cut across *in the superior angle of the wound*, but the skin, which forms no impediment of this kind, is to be left uncut. If the lips of the incision do not contract in this way, nothing has to be done.

At the bottom of the incision, and opened by the knife, is the sheath of the long tendon of the biceps. The tendon is to be divided, but not displaced.

The third step.—By slightly rotating the arm inwardly and outwardly, the large and then the small tuberosities are to be brought to the centre of the incision, in order that the four muscles which are inserted into their summits may be divided.

The fourth step.—The capsule being extensively opened by the division of these four muscles, the elbow is to be carried backwards

and then upwards, so as to make the head of the bone slip from its socket into the wound. Then the periosteum is to be gently detached from the neck towards the shaft, and the head is to be removed by dividing the *bare* neck with the chain-saw.

The fifth step.—The vessels are to be tied, the cut surface of the bone is to be covered with the preserved periosteum as with a cowl, and the extremity of the humerus is to be kept in immediate contact with the glenoid cavity.

(D) CONCERNING THE INFERIOR EXTREMITY.

ART. 95.—*Removal of the head of the Femur and of the upper rim of the Acetabulum, with perfect recovery.* By Dr. LEWIS A. SAYRE, Surgeon to the Bellevue Hospital.

(*New York Journal of Medicine*, Jan., 1855.)

We give the case as Dr. Sayer relates it. The disease was *morbus coxarius*.

On the 20th of March, 1854, I was called, in consultation, with Dr. Throckmorton, to see Ellen G., 297, 5th Street, æt. 9, who had been suffering for eighteen months with *morbus coxarius* of the left hip, which was supposed to have resulted from a fall. She had been treated with issues, blisters, &c., together with the general tonic and anti-scorbutic remedies adapted to such cases; but the disease continued to progress, until an abscess was discovered, involving the whole upper front and inner portion of the thigh, accompanied with repeated chills, profuse sweats, and great prostration.

When I first saw her, this abscess had pointed in two places, and was apparently just ready to open; the point nearest the surface and most fluctuating was just by the anterior superior spinous process of the ileum, immediately in contact with the attachment of the tensor vaginæ femoris muscle, and Poupart's ligament. The other place of pointing was about five inches below the ligament, just over the femoral artery; pressure on any part of the upper portion of the limb distended both of these pointing abscesses, showing communication between them.

The leg was shortened $2\frac{1}{4}$ inches, and turned inward, *but not permanently fixed in its position* (as is usual), but allowing of considerable motion, which gave a distinct *bony crepitus* between the femur and ileum. The pelvis was twisted and drawn upwards. Her general health had become much affected, having lost her appetite, and she was suffering from hectic, with constant chills and profuse sweats, and was only rendered comfortable by the constant use of anodynes.

I advised a free opening of the abscess, and, if necessary, to remove the head of the femur. At first this was objected to; but, as the child's health rapidly failed and death seemed inevitable, the father, in a few days, consented to the operation. Accordingly, on the 29th of March, 1854, assisted by Drs. Thockmorton, Drake, Thebaud, Bauer, and Bertholf, I proceeded to perform it.

I first laid open the abscess by a free incision of about six inches, over the trochanter major, on the outer aspect of the thigh, and in a line with the femur, and then cut into the floor of the abscess (which principally occupied the inner and front portion of the thigh), and discharged about a pint of thin

serous and flaky pus. The finger was then readily passed around the neck of the femur, and detected an opening in the capsular ligament on the inner surface of the neck. The upper border of the acetabulum had been absorbed, and the head of the femur was upon the dorsum of the ileum, near the anterior superior spinous process, *surrounded by its capsule* (which seemed to have been slipped up), and a large deposit of bone, apparently being an attempt of Nature to make a new acetabulum. But this cavity thus formed had no lining membrane, as the femur grated roughly upon it. I then opened the capsular ligament on a line with the external incision, and disarticulated by bringing the leg strongly across the opposite thigh, and then, with a large pair of Luer's forceps, readily cut off the head of the femur at the lower extremity of the neck. The bone at this point appeared perfectly healthy. I was very cautious not to injure the insertion of the psoas-magnus, or iliacus-internus, or any of the rotator muscles, which are inserted just behind the trochanter major.

The upper rim of the acetabulum had been absorbed (according to the theory of Dr. March, of Albany), and the new deposit of bone, which was intended to supply its place, was denuded and carious. I gouged it off with a sharp, firm chisel, made for that purpose, and, in this way, took off a number of flakes of bone, until I came to a healthy, bleeding surface.

The anterior superior spinous process on its outer surface, and the external lip of the crest of the ileum, was black and carious for some distance, and with the forceps I easily clipped it off until I came to healthy bone. Very little blood was lost in the operation, and after cleaning away all the debris, I brought the leg in the straight position, filled the wound with lint, and dressed with a roller and cold water compress. She was then put to bed, and a cup of strong coffee administered, after which she soon fell asleep.

The child was under the influence of chloroform during the operation, which occupied nearly twenty minutes, and was perfectly insensible the whole time.

The following extracts from my note book, taken at each daily visit, exhibit the progress of the case :

11 p.m.—Has slept occasionally, and is quite comfortable; pulse, 128; skin good; vomited freely about 4 p.m.

March 30th, 10 a.m.—Passed a good night, without any narcotic, and slept about four hours; has had no chill; taken breakfast with a relish, and is surprisingly comfortable, considering the magnitude of the operation; pulse 120; no hemorrhage; passed urine twice.

31st.—Took half a grain of opium last night; slept well; pulse, 120; skin good; removed external layer of lint; found small amount of pus.

April 1st.—Slight fever; heat of skin and thirst; pulse, 130. Administered 5 gr. Dover's powder, with addition of half a grain of ipecac., every four hours.

2d.—Has passed a good night, slept six hours, ate a good breakfast, and feels every way better, but is much more feeble; dressed the wound; on removing the lint, found healthy pus in abundance.

The abscess, which pointed at the anterior superior spinous process, being again full and fluctuating, I opened it, and gave exit to about a tablespoonful of tolerably healthy pus; pulse 140, and more feeble; directed to administer brandy and beef-tea more liberally; I do not think the family give sufficient stimulants or nourishment, as they are very strongly opposed to brandy, and are afraid of meat on account of fever.

3d.—Slept well all night without opiate; pulse, 120; bowels moved twice

naturally; appetite good; finding great improvement follow a more nutritious diet; I advised its continuance.

4th.—Same as yesterday; healthy suppuration, rather abundant.

5th.—Child very comfortable, amusing herself by cutting paper dolls; applied the straight splint for counter extension to the well side, and made extension by means of the foot-board, bringing the limb down to the same length of the opposite one.

6th.—Slept well; bowels moved naturally; but pulse more quick and feeble, 160; has not eaten so well; ordered brandy and soup to be given more liberally.

7th.—Slept well, but much weaker, having had three loose discharges in the night, and some hemorrhage from the nose, which was arrested by astringents and compress. Ordered brandy and laudanum, with more liberal use of iron.

8th.—Diarrhœa not yet checked; the brandy and opium was not given, and yet the child is somewhat stronger than yesterday; pus more consistent.

9th.—Diarrhœa checked; slept well; eats freely; discharge less copious and more consistent; pulse 120.

10th.—Very comfortable; looks as if it will require a counter-opening on the front of the thigh, at the old place of pointing.

13th.—Doing well, and the wound filling with healthy granulations.

14th.—I applied a compress and adhesive straps on the inside of the thigh.

July 1st.—Dr. Throckmorton has seen the child daily since my last visit, and reapplied the bandage and compress, which has had a most salutary effect, and the abscess has the appearance of healing rapidly.

10th.—I was again called to meet Dr. Throckmorton to-day, and found the child much prostrated from a severe attack of dysentery, which had lasted four or five days; she is very much reduced, and, I fear, will not rally. The granulations are flabby, and pus thin and copious.

August 1st.—The dysentery has been checked for some days; but the wound, which was nearly closed, has opened, and a small piece of ragged bone came away, which was probably some portion of the shavings or chips removed from the ileum, at the time of the operation, and which I had not been sufficiently careful to remove.*

20th.—The child very much improved, but the fistulous opening, from which the piece of bone had escaped, remaining, and having rather a white and flabby appearance. I injected it with tinct. iodine.

24th.—The injection has been followed by a smart attack of erysipelas, which has extended down some distance below the knee, and there is considerable constitutional disturbance.

September 1st.—The erysipelas gradually subsided, but seems to have been of great service, as it has caused union of the walls of the abscess all around the thigh, and the small opening in the cicatrix is nearly closed, discharging a very few drops of healthy pus. The limb is still in the extending splint; but on removing it there seemed no tendency to retraction of the limb. The splint was reapplied; but the body was left free from the bandage, so as to allow of flexion, in order to prevent ankylosis.

I might here mention, that for some weeks past, since about the 1st of

* Since making this note, my impressions have been more confirmed, as two similar pieces of bone have been removed from different parts of the cicatrix, and have thus materially retarded the progress of the case; I should therefore advise great care, after the performance of this operation, that all debris and foreign bodies be carefully washed from the wound; and in so large and ragged an abscess as this one was, it will require more care than any one would imagine, unless they had seen it.

August, at each dressing her body has been brought at a right angle with the thighs, having this object in view; and I have now permitted her to do it as often as she likes.

November 1st.—I had not seen the case for two months, until to-day, when, to my astonishment, I found her walking on her crutches, which she has been able to do for two weeks. Her limb appears of the same length as the other, and she can flex and rotate it freely. I directed her to bear no weight upon it yet.

20th.—To-day, I placed her in the horizontal position, and measured her carefully, and find there is about one-eighth or nearly one-fourth of an inch shortening. By taking hold of the foot, the whole body can be drawn down in bed without pain in the joint, and a pressure may be made sufficiently strong to move the pelvis and body upward without producing any shortening of the limb. When she lies upon the back, with the leg extended upon the thigh, she can elevate the heel sixteen inches from the bed, and flex the knee so as to bring the thigh at a right angle with the pelvis; she can rotate it internally so as to touch the other foot, and externally so as to touch the bed. Her general health is perfect, and the case has terminated perfectly successfully.

The bone was carefully examined, microscopically, but no trace of tubercle was found.

Appended to this case Dr. Sayre gives an account of other cases of the kind, and the paper (which is one of much research) ends with a summary, which we are glad to subjoin:

SUMMARY.—*Whole number*, inclusive of above case, 30.

Recovered, 20.—Of these, 13 were completely successful; 3 died of an intercurrent disease, at periods varying from three months to two years after the operation; 1 is reported as not having progressed favorably; the remainder are too meagrely reported, or too recently performed to decide correctly as to the results.

Died, 10.—Of these, 4 died within one week after operation; 1 on the twelfth day; 2 in two months; 1 in four and a half months; 1 some months afterwards; 1 unsuccessful.

Table of Twenty-nine Cases in which the operation of Excision of the Head of the Femur has been performed in Morbus Coxarius.

No. & Sex.	Age.	Cause and Duration.	Condition.	Operation.	Progress of Case.	Operator.
1	—	.	Caries; head separated from shaft.	1816.	Recovered.	SCHMALZ.
2, M.	14	Fall three years before	Head dislocated on dorsum; great exhaustion; several fistulæ.	1818; straight incision; straight saw; four inches removed.	Bandages and splints used as in compound fracture; fever slight; discharge soon ceased; health rapidly improved; well in a year; perfect use of limb, except in rotating knee in.	WHITE.
3	—	.	Caries.	1823; removed above lesser trochanter.	Perforation of acetabulum and formation of abscesses in the pelvis; died in three months.	HEWSON.
4	—	.	Caries with abscesses.	1829.	Cured in six weeks; patient able to walk.	SCHLITCHING.
5	—	.	Caries; head loose; fistulæ.	.	Died two months after operation.	KLUGE.
6	Child	.	Caries.	.	Recovered.	VOGEL.
7	—	.	Disease of neck of bone and trochanter; head healthy.	.	Sloughs formed on the sacrum; death on the fifty-third day; wound nearly healed.	TEXTOR.
8	—	.	Caries; head dislocated.	.	Gangrene of wound took place and death followed on the fourth day	"
9	—	.	.	1845; removed all above lesser trochanter.	Complete recovery.	"
10, M.	14	Some months.	Head dislocated on dorsum; large sinus extending to it.	1845; straight incision; chain saw broke; used the straight; four inches removed.	Dressed as in compound fracture; shock slight; wound healed well; health rapidly improved; limb very useful, $2\frac{1}{4}$ inches shorter than the other.	FERGUSSON.
11, M.	8	Some time.	Head dislocated; abscess over the ileum; sinuses; hectic and emaciation.	1847; crucial incision; edges of acetabulum removed; left the trochanters.	Treated as in former case; health improved; wound never entirely healed; died two years after of disease of the liver.	"
12, M.	15	Long standing.	Dislocation; emaciation; cough; hectic; no abscess or fistulæ.	1847; straight incision; removed head and part of neck.	Secondary hemorrhage; collection of pus between glutei muscles; death on seventh day; extensive disease of cotyloid cavity.	ROUX.
13	Child	Two years.	Head dislocated on acetabulum; sinuses and abscesses.	1848; removed head and portions of acetabulum.	Died four days after the operation.	SIMON.

14, F.	10	Some time.	Head carious and dislocated on dorsum.	1848; head and trochanter removed; acetabulum healthy.	Recovered.	FRENCH.
15	—	—	—	—	Recovered perfectly.	FERGUSON.
16, M.	16	Two years.	Caries; severe pain; sinuses with discharge.	1848; straight incision; removed four inches and the carious part of cavity.	Dressed as in fracture; pain ceased; health rapidly improved; wound closed well.	WALTON.
17	—	—	—	—	Unsuccessful.	SMITH.
18, M.	33	Year and a half.	Hip swollen; sinus discharging, caries.	1848; straight incision; removed three inches of rim of acetabulum; no ligatures.	Water dressings; fever slight; symptoms improved for four months, when leg became oedematous, and he died 4½ months after the operation; Bright's disease of kidneys, and caries of vertebrae found.	—
19, F.	—	Three years.	Caries; head dislocated.	1849; crucial incision; removed head and trochanter major.	Recovered perfectly.	FERGUSON.
20	—	—	—	1849.	Recovered, with perfect motion of the thigh, & could walk a short distance.	MORRIS.
21, F.	13	—	Large open sore on hip; caries; sinuses; emaciation, &c.	1849; straight incision; com- mon saw; removed 4½ inches.	Placed in straight position; slight fever; symptoms soon improved; ulcers healed; health gaining.	COTTON.
22, M.	41	Two years.	Great suffering, grating in joint; large discharge of matter.	1850; made a T incision; capsule entire, except at inner edge; removed below great trochanter; head carious, edge of cavity.	Wound cicatrized rapidly; severe symptoms all subsided; died three months after of dysentery, the wound being nearly healed; parts found in a healthy condition, and in an advanced stage of repair.	BUCHANAN.
23	—	—	Caries: head and neck partially destroyed.	1851; removed head.	Wound healed, but abscess formed; did not progress very favorably.	SAYLE.
4 F.	10	Several years.	Feeble and emaciated; fistulae discharging freely.	1852; circular incision; large collection of pus under glutei muscles.	Symptoms rapidly improved; made extension by weight attached to foot; wound healed.	STANLEY.
25, F.	10	Four years.	Head carious; emaciation and hectic.	1852; straight incision; removed one inch below trochanter; also edge of acetabulum.	Progressed favorably two days; died on the third day after operation; found large perforation of acetabulum.	HAWKINS.
26, M.	10	—	Caries and dislocation.	1852; bone separated while sawing.	Cold water dressings; pulse unaltered three days; death on twelfth day.	BIGELOW.
27, M.	14	—	Greatly reduced; bone dislocated.	1853; neck and great trochanter removed.	Rapid improvement; suppuration profuse; died some months after.	ERICHSEN.
28	12	Long standing.	—	1854; removed head and both trochanters.	Improvement marked.	FERGUSON.
29 M.	8	Long standing.	Great emaciation; hectic, caries.	1854; removed head and edges of acetabulum.	Recovered.	ERICHSEN.

ART. 96.—*Three cases of amputation at the Hip-joint.*
By Professor HEYFELDER, of Erlangen.

(*Deutsche Klinik*, March, 1853; and *Gaz. Méd. de Paris*, Nov. 3, 1854.)

M. Heyfelder has performed this operation five times, and three of his patients are yet alive. He attributes his success to his having operated by the oval method of M. Scoutetten. The present cases, two of which are successful, are given with scarcely any details.

1. The first patient was a young man, æt. 22 years, who had an enormous cancerous tumour extending from the knee to the upper part of the thigh. The patient was very emaciated, but his digestion good. The operation was performed on the 17th March (no year), and on the 28th of May the patient left the hospital perfectly well.

2. The second patient was a man, æt. 41 years, for a fungoid tumour, implicating the whole of the upper parts of the thigh. Twenty-four hours afterwards, he was seized with nervous agitation, and a few hours later he died. No dates are given.

3. The third patient was a labouring man, æt. 28, suffering from osteosarcoma of the greater part of the thigh-bone, an affection which began in the knee. The operation was performed on the 14th July, and the results were perfectly successful.

ART. 97.—*Case of amputation at the Hip-joint.* By Dr. BEATSON.

(*Indian Annals of Medical Science*, Oct., 1854.)

This operation was performed in the field hospital at Rangoon. It is related, not as possessing any feature of unusual interest, but simply as a fact for statistical purposes.

CASE.—Thomas Lisbey, Conductor in the Ordnance Department, æt. 61, 40 years resident in India, was wounded at the taking of the stockade at Donnabew, on the 19th March, 1853. While kneeling, a bullet struck him on the left hip, and on rising, a second entered the inner side of the left knee-joint, passing out a little lower down on the outer side. On the 21st March he was embarked on the *Phlegethon*, and sent to the field hospital at Rangoon, where he arrived on the evening of the 24th. He was much exhausted by severe pain and want of rest, his pulse jerking, but not much increased in number or reduced in strength; his skin cool; his tongue thickly coated with yellowish brown fur, and moist. He was ordered an opiate, and examination deferred till the following morning.

March 25th.—Has passed a tolerable night, and feels refreshed and cheerful; his pulse is less irritable, and he is free from febrile heat; he says that his bowels have not been relieved for a week. One bullet has passed completely through the knee-joint, and the synovia runs out freely; the joint is not hot or swollen, but there is considerable tumefaction above and below it. The second bullet has entered about midway between the anterior superior spinous process of the ilium and the trochanter major, and is lying beneath the skin in the right groin. Its track can be felt across the abdomen, and there is ecchymosis at the root of the penis. A small incision being made, a large leaden bullet, much flattened, was extracted. Great agony is caused by any attempt at moving the hip, and examination is therefore prevented. The

general appearances leading to the supposition that the ball had struck the femur, fracturing the cervix, and had passed superficially without effecting an entrance into the pelvis, it was determined to put the patient under the influence of chloroform, and to amputate either above the knee, or at the hip-joint, as circumstances might require. To this he assented, requesting that all proceedings might be deferred till sunset.

At five p.m., he was placed moderately under the influence of chloroform, and examination proved that the neck of the femur was completely comminuted. The whole of the medical staff present, having concurred in the opinion that amputation of the hip-joint presented the only chance, however remote, of safety to the patient, the operation was performed in the usual manner; the action of the chloroform being mildly kept up, and the femoral artery commanded by Assistant-Surgeon Paske; the knife was introduced at the wound, carried across the front of the joint, and the anterior flap formed, considerable difficulty being caused to the passage of the instrument by the displaced fragments of bone. A slight gush of blood escaped from the femoral artery, but the flap being grasped in the hand, a ligature was immediately thrown round the vessel.

The trochanter major and minor, and the several portions in which the neck was broken, were then dissected out; the fragments were very irregular, and as rough as pieces of sand-stone, the head of the femur gave great trouble, being broken off level with the acetabulum, and fractured obliquely through. The posterior flap was then formed; ligatures applied to the bleeding vessels, and the flaps brought together by sutures. A very moderate amount of blood was lost, but the shock of so severe an operation, added to the suffering which he had previously undergone, was too much for him; he partially rallied, but his pulse sank rapidly, and respiration became gasping; some wine and water was given and swallowed, cold water dashed in the face, and the chest rubbed with ammonia, but without effect; in a few moments the pulse became imperceptible, the breathing ceased, and he died.

Examination of the body after death proved that the ball had passed amongst the abdominal muscles without entering the pelvis. There was ecchymosis from effusion of blood between the bladder and its peritoneal covering; the bones of the pelvis were quite uninjured; the knee was traversed by the bullet; the articulating extremities of both tibia and femur being fractured.

Death was caused in this case clearly by the shock produced by the operation, added to the age and exhaustion of the patient. The chloroform was moderately given, and there was neither stertor nor alteration of pulse during its administration. The hemorrhage was very moderate.

ART. 98.—*Case of amputation at the Hip-joint.* By Mr. ERICHSEN,
Surgeon to University College Hospital.

(*Dublin Medical Press*, Feb. 28, 1855.)

A railway labourer, about 29 years of age, was admitted at four o'clock, p.m., on Saturday, March 31st, with his right thigh crushed by the passage of the wheels of two loaded trucks over it, at about the junction of the upper and middle third of the limb. At this point the limb was completely disorganized, though the integuments appeared to be scarcely injured, there being merely two apertures—one on the outer side of the limb, about three inches

below the trochanter; the other immediately opposite on the inner side. The deeper structures of the limb were seriously disorganized, and the fracture badly comminuted. There was very considerable extravasation of blood into the substance of the limb, and some oozing. Altogether the limb was much as if it had been traversed by grape or canister shot. No other injury could be detected, except a bruise on the left ankle. The patient was in a state of extreme depression, but collected in mind. He was put into bed, wrapped up in blankets, warm bottles were applied to his sides, and stimulants given. When Mr. Erichsen arrived, about five o'clock, reaction had in some degree set in; and the poor fellow, on being informed of the nature of his injury, not only gave his consent, but expressed a wish for the immediate removal of the limb. Whilst the necessary preparations were being made, Mr. Erichsen directed that one of the dressers should compress the femoral artery at the brim of the pelvis with his finger, so as to prevent any further loss of blood.

At half-past five Mr. Erichsen proceeded to operate, Mr. Marshall taking charge of the anterior flap and vessels, Mr. Statham of the limb. The limb was removed by the double flap operation. The anterior flap, made by transfixion, was immediately raised, and firmly grasped; the joint was then opened, the head of the bone turned out, and the posterior flap cut downwards and somewhat forwards. The limb was removed in less than half a minute, the only circumstance that occasioned any difficulty being, that as the femur was broken off to within two inches of the neck, there was not enough length of bone left for Mr. Erichsen to grasp with readiness, in order to detach the bone from the acetabulum by the leverage of the shaft. There was but very little blood lost, the vessels in the anterior flap being securely grasped, as already mentioned, and the hemorrhage from the posterior part prevented by an assistant firmly pressing a dry sponge against it. Six ligatures were applied to the arteries in the posterior flap, and three were required in the anterior flap, these being tied last. The flaps, which came into excellent and accurate apposition, were next brought together by four points of suture and broad strips of plaster, and the whole supported by a kind of spica bandage.

Chloroform was administered during the operation, and, so far from depressing the patient, it caused the pulse to rise, and seemed evidently of service in lessening the influence of the shock in the nervous system.

On examining the limb after removal, the soft parts under the skin were found completely disorganized along the track of the wheels, the femur frightfully comminuted to within two inches of its neck, although the integuments were not externally torn, with the exception of the two apertures to which we have already referred.

The patient bore the operation wonderfully well, but soon afterwards became restless, depressed, and finally sank in the course of the evening, from the combined influence of shock, the injury, and exhaustion.

ART. 99.—On Dislocation of the Femur upwards beneath the Crural Arch. By MR. CADGE, of Norwich.

(*Lancet*, Dec. 23, 1854.)

In a recent communication to the Royal Medico-Chirurgical Society, the author relates the particulars of the dissection of a dislocated hip, in which the femur was thrown upwards beneath the crural arch, where the head of the bone had become surrounded by a complete and perfect bony capsule, which was of such an extent as

to hold it firmly *in situ*. The history of the case is given in full by Mr. B. Travers, jun., in a paper published in the twentieth volume of the Society's 'Transactions,' and the present communication therefore renders the whole case complete. This form of dislocation of the femur does not precisely correspond with any of the four described by Sir A. Cooper, and the author proposes substituting for the term "dislocation on the pubes," the more general term of "dislocation upwards and forwards," or dislocation beneath the crural arch. The author thinks that Sir A. Cooper's limit of eight weeks for the attempt to replace a dislocated femur is too restricted. Dupuytren succeeded in reducing a dislocated hip on the ninety-ninth day. The paper was accompanied by some drawings, and by the preparation, which is of great value and interest.

ART. 100.—*On internal derangement of the Knee-joint.*

By Mr. STEELE.

(*Assoc. Med. Journ.*, March 9, 1855.)

Internal derangement of the knee-joint is the appellation given to an injury, the precise nature of which, as may be inferred from its vague title, is not very clearly understood. The accident, however, is not very uncommon, nor is it unimportant in its consequences; for, if overlooked, it may prove very embarrassing to the surgeon, and may lay the foundation of more serious disease. The elder William Hey has the credit of having first called attention to this injury. It is noticed by Sir A. Cooper, in his work upon the joints, and by other surgical writers; but the subject appears scarcely to have received the attention which its importance deserves.

"I have no recollection," writes Mr. Steele, "of seeing a case or hearing one mentioned during my attendance on hospital practice in London and elsewhere, and it was only recently that my attention was particularly drawn to it by a clinical lecture of Mr. Smith, of Leeds, which appeared in the 'Lancet' of the 20th September, 1851. A short time after perusing that lecture I met with a case which I at once recognized from his description. I was also then able to explain satisfactorily to my own mind cases which had come under my notice previously, and which had puzzled me a great deal. The accident is generally produced by some slight fall, slip, or sprain. Sir A. Cooper observed that it occurred most frequently when a person in walking strikes his toe, the foot being at the same time everted, against any projecting body, as the fold of a carpet; he also relates cases in which the accident happened from a person having suddenly turned in his bed, when the clothes not suffering the foot to turn with the body, the thigh-bone has slipped from its semilunar cartilage. The symptoms, when the accident is recent, are very characteristic and readily recognized, when attention has once been drawn to these cases: but yet so slight, as very likely to be overlooked or misunderstood by those who are not aware of their occurrence. There is little or no alteration in the appearance of the joint; no swelling or effusion; and no pain when the limb is at rest. The patient walks with a limp,

with or without pain, and cannot bring the heel to the ground from inability to accomplish full extension of the limb; the motions of the joint are unimpaired, except that extension, either by the patient's efforts, or those of the surgeon, can only be partially effected, so that the limb remains constantly a little bent. In some instances, the cure takes place suddenly and accidentally; in others, the mischief will continue for days, weeks, or months. Some patients are liable to a recurrence of the accident, as is recorded by Sir A. Cooper, and as I have observed in one instance in my own practice. When accompanied by other severe injury or disease of the knee-joint, as may happen either from the violence producing the accident, or from rheumatic or scrofulous inflammation consequent upon it, the case assumes a more serious and complicated character, is less readily detected, and less easily remedied.

"The exact condition of the internal structures of the joint, which is subjected to this derangement, is not accurately known. Mr. Hey says, 'an unequal tension of the lateral or cross ligaments of the joint, or some slight derangement of the semilunar cartilages, may possibly be sufficient to bring on this complaint.' Sir A. Cooper regards it as a 'partial luxation of the thigh bone from the semilunar cartilages.' Mr. Smith, of Leeds, thinks that 'the edge of the semilunar cartilage is turned upwards.'

"The treatment to be adopted in recent uncomplicated cases of this injury is exceedingly simple and usually very satisfactory in its results. It is clearly and graphically described by Mr. Smith, in the lecture before alluded to; and I cannot do better than give it in his own words: 'If the right knee be the one affected, I place the patient at length on a sofa on his left side, I then take hold of the right ankle with my right hand, and by slow and gentle means gradually flex the limb till the heel presses upon the buttock; now is the time that a little cunning and art is required to perform the full extension, for if you attempt this without manœuvring properly you are foiled, the muscles resist the action, and you can only succeed by cheating them. I now take care the patient does not see what I am about. I place the left hand above the knee, grasping the vasti muscles, hold the ankle above the heel with the right hand, make several gentle extensions, but no further than to a right angle; and when my patient seems fully impressed with the belief that I am going to proceed no further, when I am satisfied I have caught him off his guard, I suddenly and powerfully perform the full extension of the limb. Generally I succeed; sometimes I fail, and have to repeat it once or twice. When the full extension is accomplished, the cure is usually complete.'

"Where this plan fails, and especially in cases of long standing, Mr. S. Hey recommends 'flexing the leg fully, placing the arm under the popliteal space as a fulcrum, to separate as far as may be the head of the tibia from the condyles of the femur, and at the same time to produce rotation of the tibia.' I will now relate some instances of this affection, which have fallen under my own notice.

"CASE I.—The first case which I recognized was that of a young female, who stated that she sprained her knee six days before, by a trip, while going

up stairs; she had consulted a surgeon, who ordered her an embrocation, but she was still unable to walk without great difficulty. There was no pain or swelling of the joint; but the patient was unable to place the heel flat upon the ground, or fully to extend the limb. I adopted the manipulation described by Mr. Smith, and the limb was at once restored to its natural condition, except some weakness, which remained for two or three days, after which she had no return of the complaint.

"CASE 2.—The next case was that of a mechanic who fell down a steep bank while carrying a rocking-horse; he had contusions on various parts of his body, and suffered severely from the general concussion of the fall, and was confined to his bed for some days; on attempting to walk, he found he was unable to put his foot flat to the ground; and on examination, I was satisfied that the knee was in the condition peculiar to these cases: there was also in this case acute pain when firm pressure was made on the inner side of the joint. Manipulation, as in the former case, enabled the patient at once to place his foot firmly to the ground, and in a few days he walked as usual.

"CASE 3.—The next case I shall relate was of a more complicated nature. An iron-moulder, æt. about 40, of intemperate habits, and very liable to rheumatic inflammation, fell down and sprained his ankle, which became hot, painful, and much swelled; but these symptoms subsided in a few days, and his knee became similarly affected, and he then applied to me for advice. The knee-joint was leeches and blistered repeatedly, and the treatment appropriate for rheumatic synovitis carried out, under which the case slowly improved; and the joint was, with the exception of some thickening of the synovial membrane, restored to its usual state, except that the patient was unable to extend the limb completely; flexion and extension gave no pain, but he was unable to walk across the room, from inability to put the foot to the ground. After carefully examining the limb, I became satisfied that the peculiar derangement of the joint we are speaking of had occurred probably at the time of the accident; but my attention being drawn to the more evident acute affection, and as semiflexion was the position I wished to preserve, as most conducive to the relief of the pain and inflammation of the joint, it had escaped my notice. I adopted forcible extension in the same way as in the other cases, and the patient at once jumped out of bed and walked across the room. It was some time before the whole of the thickening about the joint was got rid of; but there was no more difficulty in placing the foot to the ground, or of fully extending the limb."

Mr. Steele also refers to two cases in which he had every reason to believe that the same kind of mischief existed without being detected, one of which was set right by the rough practice of a "bone-setter," after foiling his own efforts to relieve it. He then adds, "a similar derangement of parts may occur in other complicated joints, as the shoulder or hip, and these eluding the ordinary examination of a medical man, are unconsciously remedied by the rude handling and rough manipulations of these ignorant pretenders. A small balance of good to place against the incalculable amount of mischief which these unscrupulous gentlemen inflict upon the limbs and lives of those who intrust themselves to their care."

ART. 101.—*Dislocation of the Astragalus backwards and inwards.*
By Dr. WILLIAMS.

(*Dublin Medical Press*, April 4, 1855.)

The notes of this case are taken by Mr. Alfred H. Taylor, resident pupil at the City of Dublin Hospital, at the time of the patient's admission.

Stephen Philips, labourer, æt. 54, of spare habit and sallow complexion, but who has uniformly enjoyed good health, and lived well and temperately, was admitted into the City of Dublin hospital on the 12th of April, 1852.

He states that on the previous day he had been at work, along with some other men, beneath an overhanging bank of earth and gravel in the granite quarry at Kingstown, which they were undermining and removing in order to expose the granite strata underneath. At the time the accident occurred, the patient and another man were engaged shovelling the loose earth, as it was detached, into a truck or waggon, which was placed behind them on the "tram-way." Whilst thus employed, another man ascended the bank, and, without any warning to those below, struck a heavy iron bar, called a "clay-bar," into its upper surface, when it suddenly gave way, and, being precipitated over, struck the patient violently on the left side of the thorax (he was on the side of the waggon next the falling earth), he standing with his chest parallel with the front of the bank previous to its fall; but, when struck, his body was partially rotated backwards and to the right side, as he was in the act of throwing a shovelful of earth into the waggon, which stood behind and to the right side of him. The force of the concussion threw him violently backwards across the roadway. The remainder of the earth fell over the lower part of his body, fixing his feet and legs to the ground. Though very much hurt, he says he was not at all confused, and describes the accident as having taken place exactly as above stated. He also says that he does not think the mere weight of the falling earth was sufficient to produce the injuries received, as he was easily able to withdraw the injured limb without assistance; the right leg having been more heavily covered had to be dug out before he could be completely extricated. He says he suffered acute pain in the left ankle from the moment of the accident, and it soon became swollen, and he also had severe pain in the left side of the chest. He was carried to a house in the neighbourhood, and the next day was admitted to the City of Dublin hospital under the care of Dr. Williams.

He complained of pain and a stitch on taking a full inspiration in the left side of the chest, and, on examination, the fifth and sixth ribs of the left side were found to be fractured about their centres. The left ankle-joint presents some curious and unusual appearances. The anterior relations of the tibia are very little disturbed, the anterior aspect of the foot being free from deformity, except, indeed, a nearly imperceptible shortening of the foot, which is a little everted. He has free motion of his toes, and some slight motion of the ankle-joint. Motion of the latter increases the pain, which is of a "burning" character. There is no fracture of either the tibia or the fibula, and there is some swelling and ecchymosis, with a hard tumour of an irregularly convex shape, lying between the inferior extremity of the tibia, the tendo-Achilles, and os calcis. Professor Williams came to the conclusion that this tumour was formed by the astragalus, which was dislocated backwards and inwards, and also so rotated on its antero-posterior axis that its superior articulating surface looked almost directly inwards. A slight

attempt was made to replace the bone, but was speedily abandoned, both because of the impediment to reduction presented by the above-mentioned rotation, and of the risk of further injury to the swollen and ecchymosed soft parts covering the astragalus. The limb was then placed on a double inclined plane, so arranged that the leg lay horizontally. Leeches were applied to the joint, and subsequently cold water irrigation.

The soft parts covering the displaced bone inflamed; and on the eighth day, when it was evident that their destruction was inevitable, they were divided by a crucial incision, which gave exit to a little sanious discharge, and exposed the bone with its superior articular surface looking inwards. On the fourteenth day the bone was removed (some strong ligamentous attachments, which still held it, being divided with a probe-pointed bistoury guided by the fore-finger), and it was then found that the astragalus had been fractured as well as dislocated, its head and a portion of the interior surface having been broken, or rather ground off, and a quantity of the resulting small fragments were removed. The limb was then replaced in its previous position. Nothing requiring to be particularly noticed occurred until a fortnight after the removal of the bone, when an abscess formed below and behind the external malleolus, and was opened. The discharge both from this abscess and from the cavity from which the astragalus had been removed, now rapidly diminished, and the parts presented a very healthy appearance. Matters went on favorably till about the 6th of May, when some trouble was occasioned by stripping of the integuments over the sacrum and os calcis, in spite of every precaution that had been taken to guard against both. This, however, was remedied by attention to position, and on the 7th of June the limb was replaced in its original posture. From this time he went on steadily, but very slowly improving; and on the 10th of August the cavity whence the bone had been removed had cicatrized, leaving a deep depression.

The foot was in an exceedingly slight degree extended, but not permanently so, for he possessed some power of moving the ankle, and was able to bring the foot to a right angle with the leg. He now began to move about on crutches, and at first the foot, when allowed to depend for some time, became painful and œdematous, but that inconvenience was relieved by equal bandaging, and soon ceased. Towards the latter end of August, he left the hospital to go to the country, and was then able to walk pretty well with the aid of a stick.

Nothing was seen or heard of the patient until ten months after he had left the hospital, when he returned and stated that he had resumed work, though not of so laborious a kind as before, but that the extension of the foot had gradually increased, so as to cause considerable inconvenience in walking. The tendo-Achilles was now divided subcutaneously, and the foot was brought to about the same position it had been in when he first left the hospital. He was then provided with a high-heeled shoe, and left the hospital considerably improved, but using the help of a stick in walking.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 102.—*Premature Labour induced by the “ Water-douche.”*
By Dr. HARDY.

(*Dublin Quarterly Journal of Medicine*, Feb., 1855.)

This plan, which was first practised by M. Kiwisch, of Wurzburg, was first tried in this country by Dr. Tyler Smith (*v. ‘Abstract,’* XVI., p. 367). This was in Sept., 1852. In the same month, and only a few days later, it was tried by Dr. Shekelton, in Dublin, and the trial was repeated by the same gentleman in the following January. About this time, also, Dr. Lacey reports a case of the kind in the ‘*Lancet.*’ In Sept., 1854, Dr. Sinclair, of Dublin, reports another case, and, last of all, we have Dr. Hardy’s case. The Dublin cases are all brought before the Dublin Obstetrical Society, and are related in the *Dublin Quarterly* for the time. We take the most recent case (Dr. Hardy’s) as an illustration of the rest.

CASE.—A lady, æt. 27, whose first accouchement was tedious and severe, complicated with convulsions, and terminated by the crochet, was placed under Dr. Hardy’s care for her second confinement. In June, 1853, her second labour took place; this was of thirty-two hours’ duration, and attended with alarming symptoms, which called for immediate interference; it was terminated, as her first, by perforator and crotchet.

On the approach of her third confinement, Dr. Hardy was again engaged to attend her.

“ From particular inquiry I learned the time, which she seemed to know with great accuracy, when the seventh month would terminate; accordingly, on the 30th of December last, which was ten days later than the end of the seventh month, I directed a stream of tepid water against the os uteri, and confined the water by means of my right hand, which directed the pipe of the instrument, until I had fully distended the vagina; this was continued for about five minutes, the water being allowed occasionally to flow out of the vagina. The operation was twice repeated on this day; after the third time pains were felt in the back, like the setting in of labour; but they subsided as the patient went to bed, and slept well. Next morning the douche was repeated, when the os uteri felt more open than on the previous day; it was soft and dilatable; the head was felt through the anterior portion of the uterine wall, pressing on the cervix, and the foetal heart was heard beating

strongly. After the fifth douche, which was given at about three o'clock in the afternoon, I was able to feel a portion of membrane protruding through the os.

"On visiting the patient again, at nine o'clock, p.m., I was informed that shortly after the douche she had a rigor, and there was some sanious discharge, which merely stained a napkin.

"As the os did not feel more open than when last examined, and there was no pain, I gave the sixth douche, the only one that gave rise to real uneasiness, and this only during the time the vagina was fully distended.

"I was sent for between one and two o'clock, a.m., and on reaching the patient at ten minutes past two o'clock I found the os uteri fully dilated (the labour, which was exceedingly easy, having set in at a little after twelve o'clock), and the membranes protruding to nearly the os externum; but instead of touching the head, which had been distinctly felt before, I now discovered an extremity floating in the liquor amnii. In about five minutes the membranes ruptured with a pain, and the presentation was found to be the feet. The contracted state of the pelvis now became very evident as the body of the child advanced; great difficulty was experienced in getting down the arms, and the head, which came with the face towards the left side of the pelvis, required very considerable force to make it pass the contracted brim; when this was accomplished, all difficulty was over, and delivery was completed with the utmost facility.

"Contrary to my expectation, the child's heart had not ceased to pulsate; I therefore resorted to the usual means for resuscitation, and so far succeeded that several attempts were made to cry; but there had evidently been too much injury inflicted in its passage through the narrow brim, so it gradually became more feeble, and died in little more than an hour after its birth. It is only necessary to compare the present with the two former labours of this patient, to be convinced of the utility of induction in her case: the first was upwards of sixty hours' duration, the second thirty-two, and the last not quite two, and during these two hours very easy, till the shoulders and head were passing."

"In resorting to the douche for inducing labour in the case now detailed," Dr. Hardy continues, "I constructed a very simple instrument, on Dr. Kiwisch's plan, consisting of a large garden watering-pot, to which a tube of an inch in diameter at its under part was attached; from this tube an India-rubber one, of nearly the same diameter, was fastened, and to it a stop-cock, which had a gum-elastic tube for passing up to the os uteri. From a vessel so large, and suspended at about ten feet from the ground, I expected to have obtained very considerable force, but a trial of it convinced me that it was deficient, as the stream of water was quite too feeble to distend the vagina; nor did it come against the os uteri with what I considered sufficient impetus to hasten dilatation; consequently, I laid it aside, and adopted Dr. Sinclair's syphon, which answered the purpose to my entire satisfaction, both in forcing a strong continuous stream against the os, and in distending the vagina to its fullest extent. There was only one thing in the instrument that I found might be made more convenient, and that was the conveyance pipe, which, being fixed to the instrument firmly, was occasionally pulled, to the inconvenience of the operator, by the person who pressed the elastic cylinders. To remedy this, I attached an India-rubber tube, which rendered the action of the instrument perfectly convenient, so that the tube in the vagina

could be held without interruption against the os in whatever direction was found most likely to cause dilatation.

"It has been remarked that, after the third douche was given, pains came on like the setting in of labour, but subsided on the patient going to sleep, and did not return until the next day. I am of opinion, that if the douche had been again applied within a few hours after the setting in of these pains, in all probability four applications would have been sufficient; however, as a good night's rest was of importance, and all went on favorably both during the very short labour that followed, as well as during the convalescence up to the present period (this is the sixth day, and the patient has not had an unfavorable symptom; her pulse never was above the natural standard, and the uterine tumour subsided as rapidly as in an ordinary labour), there is nothing to be regretted in having to give six instead of four douches."

ART. 103.—*Twins born at an interval of forty days.*

By

(*Gaz. des Hôpitaux*, Dec. 5, 1854.)

We give this case simply as it is related. No authority is given.

A healthy primiparous woman, æt. 24, who had always menstruated regularly, gave birth, after a short and natural labour, to a completely developed, but rather puny child, which died of catarrh when it was eight days old. The placenta came away naturally, an hour after the birth of the child. Some hours afterwards she attended to household duties. The abdomen was only partially diminished in size; active fetal movements were felt by the patient; and there was no lochial discharge, no lacteal secretion, and no milk fever.

Nothing particular occurred until the fortieth day after the birth of the child, when another infant was born, which, though feeble like the first, had evidently reached the full period of its development. The lochial discharge and secretion of milk then became established.

ART. 104.—*On the state of the fetal pulse as an indication for artificial delivery.* By Professor SIMPSON.

(*Edinburgh Monthly Journal*, April, 1855.)

At a recent meeting of the Edinburgh Obstetrical Society, Dr. Simpson made some remarks on the indications afforded by the stethoscope for expediting delivery, and specially directed attention to the fact, that while danger was usually indicated to the mother during labour, by the increased rapidity of her pulse, the death of the child was most frequently threatened when its pulse became slower and slower. It is known that in cases where, during labour, pressure was exercised upon the cord, the pulsations of the fetal heart become feebler, and are at length suspended by the continuous pressure. This is most probably the way in which the fetus perishes, during severe and prolonged labours; the aeration of the blood by the placenta being imperfect, or entirely

suspended. There are, however, cases in which danger is indicated to the child, by the foetal pulse becoming much more rapid than ordinary, reaching 150 or 160 beats in the minute, and at the same time very irregular. Dr. S. believes the danger in these cases does not result from pressure on the umbilical cord, as in the cases where the pulsations became slower and slower, but from pressure or some source of irritation acting on the brain.

ART. 105.—*Case of Birth after the death of the Mother.*

By Dr. CHEEVERS.

(*Indian Annals of Medical Science*, Oct. 1854.)

In our last volume (XX, p. 379) we recorded an extremely interesting case of this kind by Dr. Mayer, of Wurzburg. This case, we then thought, was unique, but we have since found an *allusion* to a similar case in an admirable article on Medical Jurisprudence in the Bengal Presidency, by Dr. Cheevers,—an article to which we shall have occasion to recur on a future occasion. We are not disposed to accept Dr. Cheevers' explanation that the contents of the uterus were expelled by the accumulation of gas in the intestines, but we give the fact as he *alludes* to it.

"On a recent occasion," he says, "I saw the body of a female in which the work of decomposition had fully revealed the history of her death. After it had been placed in the dead-house, accumulation of gas in the intestines had caused the contents of the uterus to be expelled,—there lay a much decomposed foetus of about four months, and with it a portion of the intensely acrid root of the *Plumbago Rosea*, seven inches and a half in length, thickly coated with inflammatory mucus-deposit."

ART. 106.—*Cases of Cæsarean Section.* By (1) M. BEHM. (2) M. RETZIUS. (3) M. BROERS. (4) Dr. MERINAR. (5) Dr. MASON. (6) M. PIACHAUD. (7) M. LEBLEU. (8) M. WINKEL. (9) M. LA ROCHE. (10) M. DUBOIS.

1. (*Schmidt's Jahrbucher*, No. 10, 1855.)
2. (*Ibid.*)
3. (*Nederlandsch Lancet*; and *Medical Times and Gazette*, Oct. 21, 1854.)
4. (*Philadelphia Examiner*, Oct., 1854.)
5. (*Ibid.*)
6. (*Archiv. Gén. de Méd.*, Jan., 1855.)
7. (*Gaz. des Hôp.*; and *Medical Times and Gazette*, Oct. 28, 1854.)
8. (*Gaz. Hebdom. de Méd.*, March 2, 1855.)
9. (*Schmidt's Jahrb.*, No. 3, 1855.)
10. (*Gaz. Hebdom. de Méd.*, April 20, 1855.)

These cases are nearly all of very recent occurrence. In three of them it is the second operation in the same woman which is recorded. Of the ten cases, eight children (twins in one case) were saved, and eight mothers lost.

1. *M. Behm's Case.*—The operation was necessitated in this case by a large

bony tumour in the pelvis. The patient, æt. 29, was deformed and rickety. She had been delivered by craniotomy six years before, the tumour then being comparatively small. The present operation was performed on the 4th of September, 1851, under the influence of chloroform, and two living children were removed. At the time there was considerable hemorrhage, and three days afterwards the patient sank from exhaustion. Both the children survived.

2. *M. Retzius' Case*.—Here, a fibrous tumour of the pelvis was the cause of the operation. The patient had been delivered once before, and by the natural passages, but with extreme difficulty. The operation was performed under the influence of chloroform. The child was in an incipient state of decomposition. Little blood was lost, and the patient was not at all sensible to suffering during the operation, but she presently began to sink, and death happened forty-six hours afterwards.

3. *M. Broers' Case*.—This woman was 33 years old, and primiparous, when Dr. Broers was called on by Herr Nuijens to assist him in her delivery, as he had already in vain attempted extraction with the forceps. Dr. Broers found the head impacted very high up, the conjugate diameter being there narrow, and assented to the performance of perforation, as the pulsation of the foetal heart was no longer audible, and the attempt to return the head had failed. After a great quantity of brain had been discharged, it was found necessary to remove several pieces of bone before the head could pass through the conjugate diameter. After the birth of the child, which was well developed, a very violent hemorrhage set in, necessitating the removal of the placenta. On the introduction of the hand, it was ascertained that the conjugate diameter did not amount to quite three inches, that the promontory of the sacrum projected strongly forward, and that the pelvis was larger on the right than on the left side, but that it was in general too narrow. Convalescence proceeded favorably, and the patient was able in three weeks to go out. After the lapse of more than a year, the woman came to report that she was again about seven months pregnant. It was determined to induce labour in the thirty-second week, after Riecke's method—viz., by introducing and leaving a bougie between the membrane and the wall of the uterus. On the third day, the os began slowly to dilate, and a second abdominal position was recognised. Turning was successfully performed, but with extreme difficulty, in particular the elimination of the head was almost impossible. The child, a female, was still-born; it was pretty well developed; $15\frac{1}{2}$ inches long; weighed six pounds; the short diameter of the head, $3\frac{1}{4}$ inches; the long diameter, $4\frac{1}{4}$; the perpendicular measurement, $3\frac{1}{4}$. Convalescence proceeded regularly; the patient was well in three weeks. Pregnant for the third time, she did not apply for assistance until the last. It was determined, in consultation with HH. de Bordes and Hoogwinkel, to perform the Cæsarean operation, although the existence of pulsation in the foetal heart was doubtful. The child had moved a few moments before, and the mother's state was favorable. The waters had already been discharged when the operation was commenced; the opening into the abdominal parietes (linea alba) and the peritoneum was six inches long; that into the wall of the uterus and the membrane was five inches; the incision fell close to the insertion of the placenta. The child, a female, well developed, 8 lb. weight, above 17 inches long, was dead; the after-birth was removed through the wound. The latter, united by suture, healed so rapidly, that in fourteen days the woman might be looked on as recovered. Two years subsequently she again returned, in the ninth month of pregnancy. The necessity of performing the Cæsarean section was again agreed on, and the operation was on this occasion performed

by Herr Hoogwinkel, in the same manner as before. At the beginning of the operation the membranes were still unbroken, the os was dilated to the size of a guilder; the head again presented. The incision, close to the cicatrix of the former, fell also on this occasion contiguous to the placenta; the membranes gave way during the operation. A well-developed living male child, 16 inches long, and weighing $7\frac{1}{2}$ lb., was extracted, as well as the after-birth, through the incision. The uterus contracted slowly and imperfectly; fever, with delirium, soon set in; the patient's strength diminished; there was no secretion of milk; the wound continued pale, without reaction. On the fifth day after the operation, the woman died, aged 37. The child lived, and four years subsequently was in good health.

4. *Dr. Merinar's Case.*—This is a case in which the Cæsarean section was successfully performed twice. The child was dead in the first instance; the mother and child both survived in the second instance. The patient, æt. 24, was taken in labour on the 14th of July, 1852. For three days she was attended by a midwife; the labour had been active, and the waters had escaped on the second day. On the arrival of Dr. Merinar, he found great deformity of the pelvis—its antero-posterior diameter not exceeding two inches. On the morning of the 18th, uterine contraction ceased, the patient lay exhausted and stupid, skin hot and dry, great tenderness over the abdomen, much thirst, and pulse 124. After consultation, Cæsarean section was decided upon. An incision, $5\frac{1}{2}$ inches in length, was made. The uterus was then laid open, and a dead male child extracted. The placenta and membranes were then removed; the usual dressings were applied. In the course of recovery no very severe symptoms manifested themselves; and on the 20th of September, she had entirely recovered. On the 22d of May, 1854, she was again taken in labour; the pains were violent, and, at midnight of the same day, were so severe, notwithstanding the free use of opiates, as to threaten danger. Cæsarean section was again decided upon. An incision was made parallel with the first. The womb was laid open, and a living male child removed. Following the delivery of the placenta and membranes, there was but little hemorrhage. The usual dressings were then applied. On the fourth day after the operation, somewhat severe symptoms set in, which, however, were controlled by energetic treatment; after this, her recovery was gradual. On the 28th of August, both mother and child were enjoying good health.

5. *Dr. Mason's Case.*—Here, rupture of the uterus was the cause of the operation being performed. The patient was in labour with her sixth child. Rupture of the uterus occurred two hours and a half after her sickness commenced, and when in the act of defecating, immediately on the occurrence of which she complained of intense, agonizing, burning pain in the right side. The head of the child receded, and could be felt through the abdominal parietes. Twelve hours after the occurrence of the rupture, Dr. Neil performed gastrotomy, under the influence of ether, by an incision through the linea alba, six inches in length. The child, which was hydrocephalic, was removed, together with the placenta and large quantities of coagula. The usual sutures and dressings were applied. Considerable constitutional disturbance occurred during the first ten days; but, on the twenty-first day, she was about house, and one month afterwards she had entirely recovered. The date of the operation was July 24th, 1854.

6. *M. Piachaud's Case.*—Madame B——, æt. 27, rickety and diminutive, was taken in labour of her first child on the 1st of July, 1854. The sacro-pubic diameter of the pelvis was almost nil. The operation was performed as soon as the necessary preparations could be made, and a living child was

extracted. The mother sank fifty hours afterwards. On examination, the abdomen presented no marks of inflammation.

7. *M. Lebleu's Case*.—Charlotte Desmit, dressmaker, æt. 17, who had commenced menstruating a year ago, entered the Dunkirk hospital, October, 10th, 1844, at 7 p.m., pale and delicate. She exhibited traces of rachitic disease, which had affected her from youth, being only three feet and a half high. From the symphysis pubis to the soles of the feet she measured only a foot and a half, the tibia being strongly curved forwards, and the femur outwards. She was at her full term, and in labour since 3 a.m. The os uteri was dilated a little more than an inch; the membranes were entire. The sacro-pubic diameter was supposed to be rather less than two inches, both by my colleagues and by myself, who had determined on performing the Cæsarean operation several months previously.

The incision was made in the linea alba; the different structures were divided; the uterus was opened; first the fœtus and then the placenta extracted. The hernia of the intestines was speedily reduced, and the wound was united by sutures and plaster.

On the following day there ensued violent sickness and vomiting, which was allayed by venesection and the application of leeches to the abdomen. She had no further bad symptoms, and the wound cicatrized within a month. The child, well formed and muscular, was seen, a year after birth, in good health. Ten years afterwards, this same patient, who had consulted Dr. Lebleu from time to time for trivial ailments unconnected with the Cæsarean section, made her appearance with the announcement that she was three months *enceinte*, and earnestly desired that abortion should be effected—a proceeding which she had been given to understand was common in Paris, whither she threatened to go in the event of Dr. Lebleu's refusal. The worthy Doctor stated that he was quite aware of the nature of all such proceedings, but that neither he nor anyone in the world had the right to take the life of a fœtus in utero, which was as much deserving care as herself, and that she must submit to a second Cæsarean section.

She left the consulting-room not convinced, but six weeks afterwards she returned with her mother, decided to abide by the decision, provided she could have the same nurse as upon the former occasion.

The second operation was much less painful and more quickly done than the former. The peritoneum adherent to the abdominal walls had become much thinned; but no accident occurred to retard the proceeding. The day following, she was calm and free from pain; but on the succeeding day, hemorrhage came on, and she expired.

Upon examination after death, the uterus was discovered the size of an ostrich's egg, and full of clots of blood, and in the middle of the cut edges were seen the orifices of two large varicose veins, each covered by a black clot, placed in a situation corresponding with the placenta.

8. *M. Winkel's Case*.—In this case, also, the operation was necessitated by rupture of the uterus. It was the second time the patient had been thus operated upon for the same cause, she having been delivered of a child by the knife in October, 1852. This child is still alive.

The patient's name was Augustine Lieper. She was much deformed, and the pelvic passage was almost obliterated. Labour began on the 25th of August, and after continuing for three hours, the uterus suddenly ruptured, and the child escaped into the cavity of the abdomen. The operation was performed under chloroform, and a dead child extracted. The mother recovered without any accident.

9. *M. La Roche's Case*.—This case unfortunately ended in the death of the

mother. The mother's age was 27. She was a fine woman, but her pelvis was almost entirely filled up with a fibrous tumour. The operation was performed in the usual way, under chloroform; and the child, a fine boy, was born living. For two days the mother went on well, but on the third, symptoms of inflammation in the womb made their appearance, and she died on the fifth day.

M. Dubois' Cases.—Two cases of Cæsarean section have occurred in the Hôpital de Clinique, under Professor Dubois, both in the month of January last.

1st Case.—Here the operation was required in consequence of rachitic distortion of the pelvis. The patient was in a very unfavorable state, suffering from great œdema of the extremities, and from albuminuria. She was admitted into the hospital on the 25th of January, 1855. The membranes broke on the day following, shortly after which the operation was performed, and a living female child delivered. The lips of the external wound were kept together by strong “serres-fines” instead of sutures, and some of these slipped in the night, and a loop of intestine escaped through the gaping wound. This loop was greatly distended with gas; and it was necessary to prick it in various places, in order to effect its reduction. After this, twisted sutures were applied. The first night passed very well, and there was some little sleep; but towards noon the next day, she began to cough and vomit, and presently she sank. The post mortem examination furnished no sign either of hemorrhage or of inflammation. The pregnancy was the first.

2d Case.—This patient was admitted into the same hospital, preparatory to her first confinement, on the 25th of November, 1854. Her pelvis had been fractured when a child, and considerable displacement of the bone existed. She had been sent up from the country, on the supposition that her delivery might be more than ordinarily difficult from this cause. Labour began on the 7th of January. On examination, the pelvic passage was found to be very contracted, and its upper part occupied by a strong fibrous band, beyond which, with extreme difficulty, the os uteri could be felt. This band was divided with a scalpel, but the passage was still too contracted to allow of a proper examination, and natural birth was out of the question. Under these circumstances, M. Dubois resolved to try to deliver by craniotomy, and he introduced the instrument with considerable difficulty; upon doing which, a considerable quantity of extremely fetid gas escaped into the chamber. The difficulty he had in introducing the instrument caused the operator to abandon the idea of delivery in this way, and the Cæsarean section was resolved upon, the failing strength of the mother rendering all further delay (she had been in labour four days) impracticable. She was, therefore, put under the influence of chloroform, and the operation performed in the usual way. The fœtus was quite putrid, and enormously distended with gas. There was scarcely any hemorrhage. In the evening the patient became agitated, and this agitation increased during the night; and on the next day she sank, prostrated, apparently, by putrid infection, for the strong putrid odour which had been attributed to the fœtus continued after its extraction. On examination after death, the inner surface of the uterus was found to be in a gangrenous state.

ART. 107.—*Inversion of the Uterus following Parturition.*
By Mr. BORHAM.

(*Assoc. Med. Journal*, March 2, 1855.)

Cases of this kind are very rare ; two only have been seen by Dr. Denman, one by the late Dr. Merriman, and one by the present Dr. Ramsbotham, in a recent state while the patient was alive. The value of this case is increased by the remarks which accompany it.

CASE.—Mrs. H——, æt. 25, residing near Paddington Green, a fine strong woman, was delivered of her first child, with the *funis twice twisted* round the child's neck, on January 31st, at 3 p.m., by Mrs. Collen, of Paddington Street, a midwife of considerable experience, after a natural labour of sixteen hours' duration. The pains occurred at rather longer intervals than usual, and were very forcing. About an hour after the child was born, I arrived in consequence of a hasty summons, when the patient presented the following state : The whole of the uterus, dragging a small portion of the posterior part of the vagina with it, was lying (like a scrotal hernia) without the os externum ; it was covered with the deciduary and other membranes, and the placenta was entirely attached to its fundus. The patient was lying upon her back, with her knees bent up. She was pulseless, had difficulty of breathing, was cold, prostrated, and exhausted—in fact, in a state of collapse. The uterus had been exposed for three-quarters of an hour, and had become much contracted. I immediately detached the placenta, by inserting the index-finger of my right hand between it and the uterus, and then peeled off the membranes attached to it (those which spring from the placenta). The midwife now well greased my left arm and hand, with which I grasped the uterus, and returned it within the vagina. I then withdrew my hand a little, formed my fingers into a cone, reintroduced it, gently carrying the fundus before me until I had carried it up to a level with the patient's umbilicus, when I had the satisfaction of finding that the uterus had righted itself into its normal position in the pelvis. Its neck and os then commenced a gradual contraction on the fingers, when I carefully and steadily withdrew my hand, desiring the midwife at the same time to make pressure just above the pubes with her hand. After the withdrawal of mine, I had a saucer placed upon the lower part of the abdomen, and a bandage bound tightly over it.

During this time, which lasted about fifteen minutes, the patient was in a state of great exhaustion, and it was only by the aid of brandy that I could at all arouse her. I remained with her an hour, by which time she rallied considerably. I then left, prescribing for her a mixture of sulphuric acid, sulphuric æther, and camphor mixture, every two hours.

At 10 o'clock I was again sent for, as a return was feared ; but, on examining, I found it was only a clot escaping, and I placed a sponge in the vagina.

February 1st.—The patient remained in a very low state ; the pulse was 150, and feeble ; she was very thirsty ; the discharge was moderate. She was ordered to continue the mixture.

2d.—The pulse was 120. The patient was very excited, with peritonitis threatening. I ordered two grains of opium and five of calomel to be taken directly, and a saline mixture with prussic acid. The patient had a desire to micturate, and for the first time I desired her to be moved for that purpose, when she passed a great quantity of urine. She felt exhausted, but much relieved.

3d.—The pulse was 110. She had had four very liquid stools in the night, which produced faintness. She complained of much pain in the bowels, and was restless. The tongue was furred; there was a dragging or tearing pain in the bowels; the discharge was offensive and purulent. I ordered fifteen leeches to be applied to the epigastrium, and a poultice afterwards; I also prescribed grey and Dover's powders to be taken every three hours, and an effervescing saline draught with an excess of ammonia and prussic acid every four hours.

4th.—She was better in every respect. The medicines were continued.

5th.—She was progressing favorably.

She continued daily to get better. Her milk came at the ninth day; and I left her convalescent at the end of three weeks.

"The midwife assured me," says Mr. Borham, "that she did not use the slightest traction at the funis after the birth of the child, but that the uterus and attached membranes came out all at once with one pain about half an hour after the child was expelled; and she thinking it a 'tumour,' desired I might be instantly sent for. The funis being twice convoluted round the child's neck, greatly reduced its remaining length, and doubtless this circumstance assisted considerably in dragging down the fundus, particularly as the pains were described as 'very forcing;' the fundus thus becoming cup-shaped from unavoidable traction, the whole uterus soon became inverted and expelled.

"There is a division of opinion as to the advisability of detaching the placenta from an inverted womb before returning it. Much must of course depend upon the contracted state of this organ; the length of time it has been exposed, &c.; but I think the placenta should always be separated before returning the uterus, if the latter be in a *contracted state*; for the less the substance to be returned the easier is it accomplished. Nor need we fear hemorrhage, for the uterus being inverted, would drag down the uterine arteries into its inverted cavity; they would become intussuscepted, the uterus contracting upon them, forming an artificial tourniquet; and thus the supply to the uterine sinuses would be cut off (as was the case in this instance, for there was no hemorrhage during the operation of detachment). I therefore cannot think, with some authorities, that the patient is sure speedily to die of profuse hemorrhage if the placenta be detached. On the other hand, if the uterus were in a very relaxed state, and its os well dilated or easily dilatable, the hemorrhage might indeed be great if the placenta were partly detached; and in such a state there would be little difficulty in returning the whole mass, and perhaps it would be advisable to do so. But in a case like my own, it was desirable to return the uterus with as little addition to it as possible, owing to the contracted state of that tissue.

"That the uterus should be *immediately* returned there cannot be two opinions; or its contraction would soon prevent its return. The diminished size of the os would prevent the fundus from returning through it to its normal position, and strangulation would ensue, with its evil consequences. That peritonitis ensued in my case is not to be wondered at, considering how the peritoneum must have been interfered with by such a sudden revulsion of its tissue. The favorable

termination of the case will certainly add a good practical confirmation to the opinion of those who are in favour of removing the placenta before returning the uterus. The uterus did not return with a sudden jerk, such as is usually ascribed to such cases.

ART. 108.—*A new operation for lacerated Perinæum.* By M. JOBERT.

(*Gaz. Hebd. de Méd.*, Nov. 10, 1854.)

The peculiarity of this operation is in the suture. After having pared the edges of the wound, M. Jobert threads a broad lace lengthwise through them, and then drawing the lace, he puckers all the edges to a point, precisely as the mouth of a tobacco-pouch is closed by drawing the string. M. Jobert appears to have operated in this way in more than one instance.

CASE.—Eliza Dorvilliers, æt. 23, staymaker. The labour, in which the perinæum gave way, was her first and only one; it occurred on April 5th, 1854. The child was dead. Except so far as concerned the wretchedness of the local accident, her recovery was prompt and satisfactory.

She was admitted into the Hôpital de la Clinique, under M. Jobert, on the 25th of August, 1854. At this time her general health was pretty good. Three days previously she had menstruated for the first time since her confinement. She had no power of retaining flatus or fæces, if at all fluid. The perinæum is completely lacerated, and the recto-vaginal septum is torn to a certain extent (about 3 centimetres). The lacerated edges are retracted and cicatrized. The neighbouring skin is red and somewhat tumefied.

Having prepared the patient by several baths and a purgative enema, administered the night before, M. Jobert proceeded to operate on the 1st of September.

Having placed the patient in the position for lithotomy, the edges of the wound were pared. This took considerable time, and it was attended with much hemorrhage. Then three threads were taken and introduced in succession, the one through the length of the upper border of the wound, the second through one side of the lacerated perinæum, and the third through the other side. After this, these threads were drawn tight and tied in a double knot. Last of all, incisions were made on each side, to take off the tension.

The case progressed favorably, without any remarkable event. On the 6th, the threads were removed, and union appeared complete. On the 8th, there having been no motion up to this time, several unwise efforts were made at the close-stool, but without any ill consequences. On the 15th, a careful examination was made, when there was found to be a minute fistulous communication between the vagina and rectum. This was touched with a point of lunar caustic. On the 24th, this opening was completely closed, and the patient had recovered complete power over the bowel. The perinæum is about 3 centimetres broad, and appears to be very solid. On the 26th October, she left the hospital quite well.

ART. 109.—*Case of lacerated Perinæum treated by subcutaneous division of the Sphincter and sutures.* By Dr. W. PARKER, Professor of Surgery in the College of Surgeons, New York.

(*New York Journal of Medicine*, Nov., 1854.)

In a former volume ('Abstract' XIX. p. 360) Dr. Lever relates two cases of lacerated perinæum in which the main peculiarity was the subcutaneous division of the coccygeal attachments of the sphincter and levatores ani, by Mr. Hilton. These cases occurred respectively on the 26th August, 1848, and the 10th February, 1849. In October, 1849, Dr. Parker performed a similar operation, without being aware that it had ever been proposed to divide the muscles in these cases, subcutaneously or otherwise; and he now relates the case.

CASE.—I was called, on the 24th of October, 1849, to see Mrs. M—who had recently been delivered of her first child. Her labour was terminated with instruments; and an extensive laceration of the perinæum, involving the sphincter ani, followed their employment. I was called in consultation a day or two after her confinement, to relieve, if possible, by an operation, her unfortunate condition.

On examining the parts, I found the laceration very extensive, extending fairly through the sphincter ani, the edges being widely separated, and the torn ends of the muscle drawn upon either side toward the coccyx. The appearance of the wound resembled that which is produced on dividing the orbicularis oris, the edges of the wound being drawn widely and permanently asunder by the contraction of the muscle.

The appearance of the wound suggested the method of cure. It would be difficult to retain the approximated edges of the lacerated parts of the anus in apposition while the sphincter remained in its present condition, strongly retracting its lacerated edges towards the coccyx. I accordingly proposed to divide the sphincter subcutaneously, but thoroughly, on each side of the coccyx, and then, after trimming the edges of the perineal laceration, approximate the lips of the wound, and retain them by deep clamp or quill sutures. The operation was acceded to by the gentlemen in attendance, and I proceeded at once to operate. The sphincter was thoroughly divided at the points above indicated; and the edges of the wound, pared, were easily approximated and retained by the quill suture. The bowels were confined by opiates for several days, and finally moved with injections of sweet oil. Union readily took place, and the result was most satisfactory.

ART. 110.—*A new operation for lacerated Perinæum.* By M. REYBARD.

(*Gaz. Méd. de Lyons*; and *Gaz. Méd. de Paris*, Jan. 27, 1855.)

The first part of this operation is to prick a row of pins through the edges of the fissure so that their points may project into the vaginal surface. Three pins enter into each row, and their length varies with the thickness of the part. The next thing is to take two small pieces of gutta percha bougie, one for each side, and to fix the points of the three pins into it. Last of all, the edges of the fissure

are to be brought into contact by tying the corresponding pin's heads together with waxed thread.

Mr. Reybard has operated in this manner in one case, but no particulars are given.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 111.—*On the treatment of the inflamed breasts of Nurses.*
By M. REITZENBECK, of Prague.

(*Gaz. Méd. de Paris*, Oct. 29, 1854.)

The method here recommended is so simple, that no one need hesitate to adopt it, provided he is called in before the mischief has reached a certain degree of development.

It is well known that engorgements of the mammary glands are frequently caused by chapped nipple. The inflammation of the skin extends directly into the ducts, exudations take place by which some of these ducts are plugged up, the milk is pent in, and hence the engorgement. If now, in such a case, the breast be surrounded with the hands, and pressure made in the direction of the nipple, a thin, transparent, whitish vesicle is caused, by the milk accumulating behind the closed orifices of the ducts. It is necessary, then, to do this, and having done it, the next thing is to prick the vesicle with a needle, to remove any epithelial scales which may be present, and to apply the infant. If time has not been lost unnecessarily, the relief is almost immediate, and pain and tumefaction disappear in a few minutes; but even when it is otherwise the relief is very marked, and by repeating the process a few times, the sufferer is relieved altogether.

ART. 112.—*Injection of Chloroform vapour into the Uterine Cavity to relieve pain.* By M. ARAN.

(*Bull. Gén. de Ther.*, Jan. 1855; and *Medico-Chir. Review*, April, 1855.)

M. Aran, extending the local application of the vapour of chloroform in uterine affections, recommended by Dr. Hardy, of Dublin, has adapted to Hardy's apparatus a hollow uterine sound, pierced at the end by two openings; this is passed into the uterine cavity. Caution is advised not to inject the vapour too suddenly, lest the uterus be distended; but done gradually, it is said that instant relief is given to uterine pain. Five cases are reported: in three the effect was favorable; in one of these, a case of post-puerperal metritis, pain was immediately suspended, and on a second injection altogether stopped; in a second, a case of chronic metritis, with an irritable condition of the uterus, two injections produced a permanent amelioration; in the third, a case of retroflexion, in which the intra-uterine pessary could not be borne, after a few injections the instrument could be worn for several days at a time. In the two other cases, the effect was not so marked: in one, of retroflexion with chronic inflam-

mation, the injections at first caused great pain, it is supposed from being forced too rapidly, but relief followed; in the other, of obstinate dysmenorrhœa with colics and nervous phenomena, relief was but momentary, whilst the injection of a few drops of laudanum into the uterine cavity gave ease which lasted for twenty-four hours.

ART. 113.—*Blenorrhagia of the excretory duct of the vulvo-vaginal canal.* By M. SALMON.

(*L'Union Médicale*, Dec. 2, 1854; and *Medical Times and Gazette*, Dec. 23, 1854.)

The author directs attention to an affection very common among prostitutes, yet little known to the generality of practitioners, namely, purulent hypersecretion of the excretory duct of the vulvo-vaginal gland, a disease first pointed out by M. Huguier, and described by him as the occasional source of blenorrhagia in the male. It is now universally known, that there exists on each side of the vagina, at the orifice, and imbedded in the labia, a glandular body, the duct of which, half an inch long, opens just at the base of the hymen, or by the carunculæ myrtiformes. During erotic excitement, a viscid fluid, similar to the prostatic fluid in the male, is abundantly poured forth to lubricate the female external organs. That the duct of this gland may become the seat of one variety of blenorrhagia is shown by the following cases:—

A girl, æt. 18, named Heloise, came from Paris for the purpose of prostitution, and was immediately subjected to medical inspection. There was nothing morbid in the urethra, the vagina, the excretory duct of the gland, nor in the anus, but there was a slight ulceration of the neck of the uterus, which the author cauterized; he then kept the girl in the hospital some days. She was subsequently re-examined, pronounced sound, and discharged. There was the same freedom from disease upon two successive examinations, at intervals of ten days; but shortly after the last visit she was marked as having infected a young man of respectability with a profuse blenorrhagia. Dr. Salmon examined her with great care, but found no disease in the urethra, vagina, or anus. Upon investigating the condition of the vulvo-vaginal gland, he noticed, upon pressing it with his finger from behind forwards, from the ischium towards the carunculæ myrtiformes, that there flowed from the orifice of the duct a moderate quantity of thick yellow pus; there was also a well-marked increase of volume in the part. This condition remaining unchanged for several days, the author injected a solution of nitrate of silver into the gland by means of one of Anel's syringes. No improvement ensuing after a fair trial, the orifice of the duct was cauterized by the tincture of iodine, applied by means of a fine bougie. This plan was continued for four days; the discharge became gradually less, and the patient was discharged cured twenty-five days after her admission.

A girl, named D——, had been living in a reception-house at Chartres fifteen days. She came from the environs of Rambouillet. A soldier pointed her out shortly as having infected him with blenorrhagia, when she was subjected to examination, and found to be suffering from this inflammatory condition of the vulvo-vaginal gland. After a visit of a fortnight to the hospital,

during which time she was subjected to proper treatment, she was dismissed cured.

Several other similar cases are recorded, from the consideration of which the author arrives at the following conclusions:—

1. *Blenorrhagia* of the duct of the vulvo-vaginal gland is more common among young prostitutes who have just commenced their mode of life, than among those who have been long accustomed to it. All the cases recorded by the author were those of young women who had recently been admitted into the receiving-houses.

2. This form of *blenorrhagia* mostly affects the left side. Out of eight patients, the left gland was affected in six cases. The orifice of the duct is more easily observed on this side. The reason for this preference is not clear; for one cannot accept the explanation of Huguier, that it is due to pressure upon the left iliac vessels by the sigmoid flexure of the colon distended by fæces.

3. It is written by authors who have treated of abscess of the labia-majora, that excess of coitus is often a cause of the malady. This statement is verified by the fact, that the house which rendered the greater number of the cases related in Dr. Salmon's paper was much frequented, and its inmates, mostly young, were subjected to frequent and daily intercourse.

4. *Blenorrhagia* of the duct of the vulvo-vaginal gland is very common. It may exist without the coincidence of *blenorrhagia* of the urethra and vagina; it becomes the cause of an analogous affection in men. Eight clear cases in verification of this statement have been witnessed in the town of Chartres. In all, this form of *blenorrhagia* of the female existed alone; in two cases, attention was first directed to the girl by the complaint of the men who had become infected.

5. It is most important that medical men should turn their attention to this point in the examination of females.

6. The signs by which the disease may be known are derived from examination only. The woman experiences no inconvenience, nor does she think that she needs medical aid. Moreover, she may, if she please, conceal her disease, by making water, or by using as an injection a strong solution of alum, shortly before the visit of the inspector. This discharge of pus may easily be overlooked, owing to the narrowness of the duct. It is necessary that the surgeon should first make moderate pressure of the labia against the rami of the ischia, by the thumb applied in front of the anus, that it may be ascertained whether the gland be tumefied. In the natural state, it cannot be detected by the touch; if swollen, it feels like a rounded body, the size of a nut or larger. Firmer pressure made against the ischium from within will cause the contents to escape. The normally constituted fluid is thick and clear, and appears at the extremity of the duct in not larger quantity than a drop or two. The fluid from the inflamed gland is either thick, more abundant, and mixed with mucus, when the girl should be put under surveillance; or yellow and puriform, when she should be removed to an hospital.

7. The treatment resembles that of *blenorrhagia* in other situations. The result is much more rapid. Absolute rest; injections of nitrate

of silver, with Anel's syringe; cauterization with the tincture of iodine; baths. The duration is about twenty days.

ART. 114.—*Some facts bearing upon Retroflexio Uteri.*

By M. A. PORCHAT, Interne at the Foundling Hospital.

(*Gaz. Méd. de Paris*, Nov. 25, 1854.)

The great number of autopsies made daily in the Foundling Hospital has given me the opportunity of investigating the direction of the uterus in very young female children. The greater number of those examined were about two years of age: some were only a few days old. In the majority the uterus was antiflexed, and I am inclined to believe, with M. Boulard, that this direction most usually exists. Nevertheless, I have several times seen retroflexion. In some instances the retroflexion was very evident. Once the uterus was so retroflected that the superior portion had fallen back so as to become nearly parallel to the inferior portion. But retroflexion is not always so marked; the specimen which I presented was pronounced by high authority to be simply retroverted, it being considered that there was no twisting of the neck of the organ. I believe still that the body and the neck formed an obtuse angle, and that the uterus was therefore retroflected. The direction of the uterus depends in some degree upon the situation of the rectum: when the rectum deviates much to the right the uterus falls directly backwards; but it may, under other circumstances, undergo a lateral deviation. The appendages of the uterus occupy very different positions. The flexion of the uterus is not, in my opinion, the result of cadaveric alterations, and the degree of flexion has no relation to the distension of the intestine by gas. I have seen the uterus flexed in subjects where the intestine was not distended at all; and it, therefore, is probable that the cause of its direction is to be sought in the particular disposition of the tissue of the organ. The uterus in infants is soft, and falls naturally upon itself; and we have no right to regard this circumstance otherwise than as normal, and we cannot attribute to the organ any one fixed position. In the greater number of instances, however, it was antiflexed.

ART. 115.—*The treatment of Prolapsus Uteri by Zwancke's Pessary.*

By Professor CHIARI.

(*Zeitsch. des G. des Aertze zu Wien*; and *Med.-Chir. Rev.*, Jan., 1855.)

Professor Chiari speaks favorably of a form of uterine pessary contrived by Zwancke, of Hamburg. This instrument consists of two spoon-shaped blades, which are prolonged below into simple stems, and joined together by a Charnier's hinge, so that by means of a screw the two blades may be made to diverge from each other. It is introduced with the blades in opposition: their separation when inserted expands the upper part of the vaginal canal, and supports the

uterus. Chiari says it is very efficacious, easily worn, gives no pain, and occasions no hindrance to walking. He has used it with most successful results in many cases.

ART. 116.—*On Sponge Pessaries.* By M. YVAREN, of Avignon.

(Gaz. Hébdom., Dec. 22, 1854.)

M. Yvaren writes two long articles for the purpose of showing the advantages of pessaries made of sponge. They are soft and elastic, easily managed, and, instead of causing irritation like ordinary pessaries, they have, he tells us, a powerful action in allaying irritation. Like the cotton wool plug, also, they restrain or arrest ordinary mucous discharges.

ART. 117.—*On the excision of large pedunculated Uterine Polypi.*
By Professor SIMPSON.

(Edinburgh Monthly Journal, Jan., 1855.)

Professor Simpson recommends excision by means of an appropriate cutting hook, or *polyptome*, and says, that this mode of practice is as simple as it is safe. The instrument is of the form of the usual midwifery hook, the concavity being made cutting instead of round, by the insertion of a small piece of well-tempered steel blade into it. The entire length is ten inches, and four inches of the length are taken up by the handle—which is furnished with a knob to indicate the direction of the hook.

In employing this polyptome, the stalk of the polypus is first to be reached by the apex of the first finger of the right hand, introduced along the short anterior or pubic surface of the vagina; the instrument is then pushed by the left hand along this finger as a guide, and passed over or above the peduncle of the tumour, in such a direction that the concavity of the hook will come down upon and embrace this peduncle, as the instrument is pulled again downwards. The next step is to make the blade of the polypus-knife cut through the stalk of the tumour. For this purpose, a little simple traction, with a slight rolling or sawing motion, is all that is generally required. If the tissue of the peduncle is dense and strong, the dividing force of the instrument may be increased by the fore-finger of one hand being applied with a tractive power to the blunt extremity of the instrument, while the handle is dragged down and moved in a sawing direction, by the other hand of the operator. Sometimes when the polypus is round and loose, after the curve or hook is applied to its pedicle, the cutting portion of the polyptome will divide this stalk most readily, by merely doubling backwards with the fingers the body of the polypus upon its own stalk, and pulling the knife against the bent peduncle. In such a case, the peduncle is divided as much by pressing it against the knife, as by pulling the knife through the peduncle.

Dr. Simpson then proceeds to set forth the advantages of excision over deligation by comparing and contrasting the two operations.

I.—*Relative difficulty of the Excision and Deligation of Uterine Polypi.*

“No practitioner can ever be perfectly certain that any large growth detected in the vagina, is a uterine polypus, until his finger touches and traces the peduncle itself of the tumour. And wherever the finger can thus be made to pass and detect the stalk of the polypus, the polypotome may certainly be guided to, and applied so as to divide that stalk. I refer here to cases of considerable difficulty, from the unusual shape or size of the polypus. In such instances, one cannot but conceive it easier to pass upwards a solid curved instrument directly around the mere stalk of the tumour, than to pass a piece of whipcord or other ligature *behind* and *over* the whole body and mass of the polypus itself, till, in being retracted, it comes indirectly and ultimately to embrace the stalk. For example; in Plate I. fig. 3, there is a sketch of a large uterine polypus, which I some time ago amputated with the polypotome. The plate represents the polypus of the natural size—A marking the upper, and B the inferior extremity of the polypus, while C denotes the site and thickness of the peduncle of the tumour, as divided by the polypotome. In this instance, the polypus is of an elongated form, its peduncle being attached to its middle, and not to its upper extremity. The tumour had evidently grown into this form after being expelled from the uterus into the vagina. It had developed upwards towards the roof of the vagina, as much, or more than downwards. In this case, the peduncle of the tumour was readily caught and divided by the polypotome; but it would evidently have been a matter of great difficulty to have passed a ligature over the back and top of such a polypus, so as to embrace with it the peduncle from above.

“When, however, a polypus is smaller, round or oblong, and its peduncle is attached to its upper part, there is not more difficulty in applying the ligature, than in applying the knife to the stalk of it. Some, however, of the practitioners who have had most experience with the ligature, confess to the occasional difficulty of its application, with even the best kind of canula. ‘By practice and dexterity,’ says Dr. Burns, ‘this instrument (the double fixed canula) may doubtless be adequate to the object in view, but without these requisites, the operator will be foiled—the ligature twisting, or going past the tumour; every attempt giving much uneasiness to the patient, and not unfrequently, after many trials and much irritation, the patient is left exhausted with fatigue, vexation, and loss of blood. This is very likely to happen if the polypus be so large as to fill the vagina. Dr. Hunter,’ adds Dr. Burns, ‘after repeated trials, failed in a case where the polypus filled the vagina; the pedicle in the preparation is long, and as thick as the finger.’* The application of a ligature to a large uterine polypus is, ‘in many cases (Dr. Hamilton† testifies) one of the most difficult and dangerous operations in surgery;’ and he tells us that ‘he has seen some of the most eminent practical surgeons of this part of the kingdom foiled in their endeavours to apply the ligature.’

* Burns’ Principles of Midwifery, p. 130.

† Hamilton’s Practical Observations, p. 40.

“I quote, in preference, such opinions from the writings of Professors Burns and Hamilton, because both of these gentlemen were strongly in favour of the operation of deligation.”

II.—*Relative duration of the Operation of Deligation and Excision.*

“The process of excision is generally accomplished in the course of two or three minutes at most; sometimes in a shorter period. On the contrary, the deligation of a uterine polypus consists of a succession of operations rather than of one; and is usually protracted through a period, varying from two or three days to two or three weeks. The application itself of the ligature and canula, in the first instance, requires as much, or indeed more, time and pains than the act of excision. But, after its first application, the ligature requires to be tightened and adjusted from time to time. ‘Twice a day (as Dr. Gooch directs) the ligature is to be untwisted from the shoulder of the canula, drawn tighter, and then fixed again round the projecting part; and this is to be done morning and night.’ ‘Every day, (observes Sir Charles Clarke, another advocate, like Dr. Gooch, for this mode of treatment) the practitioner is to examine the state of the ligature, and as often as it is found to be at all slack, it is to be tightened. The mode of tightening it,’ he continues, ‘requires particular attention. If the canula should happen to be long, the practitioner should not hold the end of it whilst he tightens the ligature, lest with the force used the ligature should cut through the neck of the tumour, and the other extremity of the canula should be suddenly and forcibly pushed against the internal parts of the woman. The time,’ he adds, ‘at which the ligature will come away will depend upon the thickness and firmness of the neck of the tumour, and the tightness with which the ligature is at first applied. The neck of the tumour sometimes is cut through in four days, sometimes ten or twelve days will elapse between the application of the ligature and the removal of the tumour, and occasionally the separation of the tumour will take up three weeks; but this is an uncommon occurrence.’* ‘After an interval,’ observes Dr. Churchill, ‘varying from six days to three weeks, the canula will be found loose in the vagina, and the stalk of the Polypus severed.’”†

III.—*Relative care and management after the two Operations.*

“After the operation of excision, the only special treatment in general required is the introduction of a sufficient plug, of sponge or other soft material, into the vagina, to prevent the chance of bleeding; and the withdrawal of this plug after ten or twenty hours. After, however, the application of the ligature in deligation of a uterine polypus, a considerable amount of continuous care and caution is necessary up to the time at which the pedicle is ultimately divided. ‘The patient is,’ says Sir Charles Clarke, ‘to be desired to remain constantly upon her side, and should not be allowed to

* Observations on the Diseases of Females, p. 263.

† On the Diseases of Females, p. 223.

move from one side to another unless when the practitioner is present. For want of attention to this caution, there is,' he adds, 'reason to believe that the canula has been inadvertently pressed against, and its extremity pushed through the uterus of the patient, so as to occasion her death.'—(p. 262.) 'The woman,' as Dr. Ramsbotham states, 'will be obliged to keep her bed during the sloughing process; and she ought to be cautioned, upon attending to her natural calls, to beware of any accidental occurrence which might push the point of the instruments against the internal surface of the uterus.'* 'As the instrument,' Dr. Gooch remarks, 'projects out of the vagina, if the patient was, whilst turning from side to side, to sit down upon it, she might impale herself on it,—an accident which, I have heard, once took place, and terminated fatally.'"—(p. 264.)

IV.—*Relative chance of local irritation of the Vagina and Uterus.*

"Local lesion and irritation of the vagina and cervix uteri are not liable to follow upon the practice of excision, unless some local injury has resulted in the operation from very incautious manipulation. But in addition to this danger, there is after deligation, other sources of local disease in the sloughing and putrefaction of the polypus before its complete separation; in the presence of the very fetid and excoriating fluid with which the surface of the vagina and vulva is in consequence constantly bathed; and in the irritation by the ligature itself, as a foreign body, upon the constricted and ulcerating stalk of the tumour,—not to speak of the constant application to this ulcerated surface of the foul and acrid discharges that issue from the dead and decomposing polypoid structure. The polypus usually swells after the first application of the ligature. 'On account,' observes Chelius, 'of the increasing bulk of the polyp, it is generally necessary for the first few days (after deligation) to empty the bladder with the catheter, and the rectum by clysters. The symptoms,' he further states, 'which may occur after the tie has been made are, violent inflammation and fever, pain, spasm, bleeding, and other symptoms, from the pressure of the swelling polyp. To prevent,' he adds, 'the effect of the stinking ichor, repeated injections of decoctions of aromatic herbs must be employed.'† After the ligature is applied, 'When putrefaction has commenced, the discharge from the vagina (to quote the words of Dr. Ramsbotham) becomes fetid and *highly* offensive. . . . It is, indeed, the best sign we can observe, as it proves that decay is going on, that the stem is sufficiently compressed to strangulate the vessels which nourished the diseased growth. If ever (he adds) such a discharge did *not* take place in a day or two, I should be suspicious that the operation would not succeed.'‡

V.—*Relative danger of the two Operations to the health and life of the Patient.*

"Those authors who have written in favour of deligation usually quote one solitary case of death from hemorrhage after excision,

* Dr. John Ramsbotham's *Practical Observations*, vol. ii, p. 468.

† *System of Surgery*, South's Edition, vol. ii, p. 752.

‡ *London Medical Gazette* for 1835, p. 435.

recorded by Zacutus Luzitanus, in the 17th century. It was an instance of the fact, that the amount of attendant hemorrhage is not regulated by the mere size of the polypus; for in the case in question it is stated that the amputated polypus was not larger than an almond.* In this instance the operation was performed by an empiric, and no plug or other means for arresting the hemorrhage appear to have been employed. The patient died, not so much from the operation, as from neglect of all proper means to restrain the hemorrhage resulting from it. At the same time let me remark, in passing, that the operation of deligation itself is not free from the risk of hemorrhage, both from the abrasion of the surface of the tumour in working with the canula and ligature, and from the division of the vessels of the stalk, as they are cut through in the process of deligation. 'I think,' maintains Dr. Meigs of Philadelphia, 'the ligature is to be preferred to all other modes of extirpation. It is not in every case to be effected without hemorrhage. I know (he adds) of two cases here in which the hemorrhage was *terrible*.'†

"But the principal danger to health and life in this, as after other surgical operations, is the danger of phlebitis and surgical fever. Is such a consequence more liable to follow upon the instantaneous resection of the peduncle of a polypus, and the subsequent immediate removal of the amputated polypus itself,—or is it more likely to supervene upon the slow process of disjunctive ulceration being set up in the stalk of the polypus by the ligature, while the gangrenous and putrifying polypus itself, is left decomposing in the cavity of the vagina?

"I believe that no physician or surgeon acquainted with modern pathology will have any difficulty in answering, that the danger of phlebitis is much greater under the latter circumstances than under the former. The recorded experience of some of those who have written in favour of the ligature, shows strongly enough the occasional liability under deligation to the occurrence of irritative fever and internal inflammations, from phlebitis and the absorption of putrid and purulent matter from the vagina. Dr. Hamilton‡ mentions three cases of death which he had seen follow the removal of uterine polypi by ligature. 'On a close inquiry,' observes Mr. Arnott, 'I find that even those who use it (the ligature) acknowledge that occasionally cases have been met with, where the ligature in cutting its way through, has excited irritation and fever, and even death. Two cases have been described to me by the practitioners concerned where this occurred, and in casually referring to the interesting works of Boivin and Duges I find two similar ones.'§ In his lectures on fibrous tumours of the uterus, Dupuytren || states, 'I possess

* Praxis Medica, lib. ii, Obs. 96.

† Meigs' Females and their Diseases, p. 255. See also Examples in Colombat de l'Isere's Traité des Maladies des Femmes, p. 817.

‡ Hamilton. Prac. Observ., p. 37.

§ Arnott, in London Med. Gazette, 1836, p. 412. See also notices of two other cases of death from uterine phlebitis after deligation, in Cyclopedia of Practical Medicine, vol. iv, p. 393.

|| Leçons Orales, Brussels ed., 1826, p. 237.

eight or ten observations of women who have perished, from veritable poisoning and absorption of pus, after the application of the ligature for uterine polypus.

"I have myself seen a woman die with a ligature still fixed around the partially divided neck of a uterine polypus; and other cases where severe but not fatal attacks of phlegmasia dolens and phlebitis followed deligation. Twelve or thirteen years ago, on a patient of Dr. Edgar's, of Berwick, I applied a silver wire ligature to the neck of a large polypus, and tightened it from time to time, according to the usual rules. In the course of a few days the polypus was dead and putrefying; there was much heat and irritation in the vagina; and the patient's pulse became rapid under the irritative fever that followed. On strongly tightening the ligature to expedite as much as possible the total amputation of the polypus, the wire broke; and the canula and wire slipped off. I immediately proceeded to remove the polypus by excision instead of making any renewed attempt at deligation; and the result was to me very striking and satisfactory. Within twenty-four hours the local irritation had greatly subsided, and the constitutional disturbance entirely disappeared. From that time to this I have operated on many uterine polypi, but never again by the process of slow deligation. And the more that I have seen of the practice of removing large pediculated uterine polypi by excision, the more deeply has the conviction grown upon my mind, that this method is very superior to the usual method followed in this country, of the removal of them by the canula and ligature."

ART. 118.—*Extirpation of an inverted Uterus.* By Dr. GEDDINGS, Professor of Surgery in the Medical College of South Carolina.

(*Charleston Med. Journal*; and *Dublin Medical Press*, Jan. 10, 1855.)

We give the case as related by the author.

CASE.—On the 16th of May, 1854, I was requested by Dr. Pelzer to meet him in consultation, in the case of a negro woman belonging to Mr. White. On my arrival, Dr. Pelzer called my attention to a large pyriform tumour, equal in magnitude to a foetal head at the full term, which, proceeding from within the vagina, hung pendent between the thighs. This tumour was large and rounded below, but contracted into a rather thick pedicle above, which could be traced about three fourths of an inch within the vulva, at which point its contour was surrounded by a kind of cul de sac, beyond which the finger could not be passed. Its whole surface was covered by a rough, thickened mucous membrane, abraded and ulcerated on many points, considerably inflamed, and disposed to bleed when roughly handled. In the general aspect, it bore a strong resemblance to a case of prolapsus of the uterus, of long standing, but the uniform roundness of the most dependent part, together with the absence of the os tincæ, served at once to convince us that it was of a totally different nature.

The first supposition that presented itself to my mind was, that it might be a case of prolapsus of the bladder, of such long duration that the walls of the organ had become very much thickened, and otherwise altered in texture.

But, on introducing the catheter, and passing my index finger around the neck of the tumour within the vulva, I was enabled readily to discover that it was a case of complete inversion, with extensive hypertrophy of the uterus, of ancient date. The orifice of the urethra was but little removed from its normal position, and in passing my finger up, on the posterior and lateral aspect of the neck of the tumour, as far as the reflected walls of the vagina would allow it to reach, I could distinctly discover the elastic feel imparted by the convolutions of the small intestines, which rested on the partially inverted walls of the vagina.

How long the inversion had existed could not be satisfactorily ascertained; but as there is reason to suspect that the accident must have occurred at the period of her last delivery, an approximative conclusion may be drawn from the fact that her youngest child, a daughter, was present, and had the appearance of a person of from eighteen to twenty years of age. The report of the woman herself was, that she had been greatly annoyed by the tumour for many years, but had generally been enabled, by partially forcing it up into the vagina, and sustaining it there by means of a T bandage, to pursue her ordinary avocations. Latterly, it had increased so much in size as to render this impracticable, and, at the period of our visit, any attempt at replacement, however partial, was productive of excruciating pain. She was, besides, suffering so much from engorgement and inflammation of the inverted organ that, considering this, together with the partial and uncertain benefit likely to accrue from any merely palliative treatment, it became a serious question how we could most readily and efficiently relieve our patient.

Reflecting on all the circumstances of the case, it occurred to me that excision of the entire inverted organ presented a rational prospect of relieving not only the present sufferings, but also the cause of much future annoyance. The vagina being also partly inverted, the danger of such an operation was materially diminished, inasmuch as we would, in consequence of that condition, be enabled to excise the entire mass by cutting through the vaginal walls, thus leaving the substance of the uterus untouched.

Dr. Pelzer concurring with me, I seized the neck of the tumour as high up as possible, between the thumb and index finger, and manipulating in such manner as to satisfy myself that it contained none of the convolutions of the intestines, I proceeded to include it in a strong ligature, for the twofold purpose of preventing the protrusion of the intestines, and obviating any serious hemorrhage. The neck of the tumour was then cut through, a little below the ligature, with a single swipe of a probe-pointed bistoury. The operation was exceedingly simple and easy, was attended with no great pain, and, as may be supposed, was executed in a few seconds. The after-treatment presented no features of particular interest, and the case progressed so favorably that after a few days I was enabled to discontinue my visits, leaving the patient in the hands of Dr. Pelzer, who in a short time transferred her to Professor Frost, the family physician, who, at the period of our attendance, was absent from the city. She speedily recovered, and, as I understand, has since done well.

On making a section of the tumour, it was found to present a solid homogeneous mass, of a greyish-white texture, and fibrous appearance. The whole cavity formed by the inversion of the walls had become obliterated by adhesions between the opposing peritoneal surfaces; but the point of junction between the vagina and the contour of the cervix could be distinctly recognized, the incision, as stated above, having passed through the walls of the vagina. Partial and complete extirpation of the uterus for various objects—inversion, prolapsus, carcinomatous, and other degenerations of its structure—

has been so often practised, that the simple operation, and the description of which I have detailed, possess no claims to interest in point of novelty; yet it has some value as affording an additional instance to prove that, under similar circumstances, the unfortunate victims of a displacement so deplorable, may often be relieved of much suffering and inconvenience. It might be interesting to collect full references to the numerous cases in which extirpation has been practised on account of inversion, but as I have not time to execute the task, I must content myself with this brief and imperfect exposition of a single case.

ART. 119.—Cases of Ovariectomy. By (1) Dr. DUNLOP, of Ohio; and (2) Dr. CRAIG, of Kentucky.

1. (*American Journal of Medical Science*, Oct., 1854.)

2. (*Ibid.*, Jan., 1855.)

The three cases we have to report occurred in the United States. Dr. Dunlop's name is connected with a case given in our last volume. Dr. Dunlop has also been concerned as a principal in four cases, three of which were successful. One of these patients has given birth to a healthy male child since the operation.

Dr. Dunlop's Cases.—1. Mrs. B., of Bracken county, Kentucky, æt. 37, and mother of five children. She was much reduced in flesh, and her abdomen enormously distended by an ovarian tumour, fluctuation being everywhere present except in the right iliac region. She had been once tapped.

Ovariectomy was performed in the usual way on 24th March, 1853. Few adhesions were met with, except where the trocar had penetrated. The time occupied in the operation and the subsequent dressing, was twenty-five minutes, and not more than four ounces of blood were lost. The patient was altogether unconscious all the time, woke up on sprinkling a little cold water in her face, when the pulse was 80, and, so far as could be seen, in the same state as before the operation.

Two hours afterwards, the pulse rose to 88, and a little pain was felt in the abdomen. In the course of the evening, she became restless, and vomited several times; her feet also were cold. The medicine given was extract of hyoscyamus, in the form of a pill.

25th.—She has passed a good night; skin natural. During the morning she vomited a worm, and was very restless. She was calmed with a dose of paragoric.

26th.—The last night was passed comfortably upon the whole. Her spirits are good, the pulse 84, full and soft; the tongue clean, and appetite good; and no swelling of the abdomen. The wound uniting by first intention.

29th.—The wound perfectly united, except around the ligatures. All the sutures have been removed. During the night the patient turned upon her side without any inconvenience.

April 14th.—The ligatures came away to-day, without difficulty or pain. She can now sit up half the day, and walk into the adjoining room without assistance.

The left ovary was removed. The weight of the tumour was 37 pounds.

2. Mrs. F., of Clermont county, Ohio, æt. 46; menstruation had ceased in her fortieth year. Had received an injury in her left side seventeen years ago, and had felt the effects of it ever since. About three years since, she discovered a small tumour, about the size of her fist, floating loose in the

lower part of the abdomen, which had gradually enlarged. At the time she visited me, April, 1853, I found it filling the whole cavity of the abdomen, and greatly distending it. Fluctuation was distinct in every part. After examining the case, and hearing her history of it, I told her the disease was ovarian dropsy, and that her only chance for a cure was an operation for its removal. Her general health up to this time had been good, and although she was greatly reduced in flesh, I told her I could see nothing in her case that would deter me from operating, if she wished it. I gave her directions for medicine and diet, to prepare her system in case she determined on an operation. After returning home, and consulting her friends, she sent me a note, stating that she wished the operation to be performed on the 17th of May, 1853. Accordingly, on that day, assisted by Dr. J. T. Bradford, of Augusta, Ky., and in the presence of a number of medical gentlemen and students, I performed the operation in the same manner as in the case of Mrs. B. There was but one slight adhesion to the omentum, which I divided by the knife. The patient did not come under the influence of chloroform well, and had to be held during the operation, which lasted seventeen minutes, including the dressing; but she was entirely unconscious of pain. Pulse, on placing her in bed, 84, and had undergone no change during the operation. Complained of being sick at the stomach, which soon passed off, and which I supposed to be the effect of the chloroform. Six hours after the operation she complained of severe pain in her stomach, which readily yielded to $\frac{1}{4}$ gr. sulph. morph. Her urine had to be drawn off by the catheter for three days. Bowels were moved on the third day by medicine. Catamenia made their appearance the second day, and continued for three days. The sutures were removed, two on the third day, and two on the fourth. The wound healed by the first intention; she was able to be on her feet the fourteenth day after the operation. No unpleasant symptoms occurred during the progress of the case. The ligatures came away on the twenty-seventh day after the operation. The tumour consisted of one large sac, to the inner surface of which were attached the small ones, the largest of which would probably contain one-third of a pint. The walls of the sac were thin, and of a very even thickness throughout. The sac and its contents weighed thirty-one pounds. It was the left ovary that was removed. The length of the incision made was ten inches; very little blood was lost during the operation. She has since enjoyed uninterrupted good health, and is now more fleshy than ever before in her life.

Dr. Craig's Case.—The subject of this case was 26 years of age, the mother of one child. The operation was performed on the 22d April, 1854. Sulphuric ether having been previously administered, an explorative incision was made, three inches long, between the pubis and umbilicus; after carefully dissecting down to the peritoneum, this was opened, giving exit to about twenty ounces of serum, and leaving exposed the firm, irregular, silvery looking tumour. The exploring finger could now detect adhesion of the tumour to the peritoneum in the left lumbar region; no other being found after a careful examination, it was decided to extend the incision to the pubis and umbilicus. At this time, about a pint of serum again escaped.

A large trocar was passed into one of the sacs of the tumour, but the contents were so thick that none passed through the canula. The incision in the abdomen was then enlarged, being made to extend to the pit of the stomach. The omentum was found extensively adherent to the superior surface of the tumour, and it was necessary to dissect it carefully loose. One-half of the tumour now protruded through the opening, and, being large and unwieldy, three of its largest sacs were opened, and their contents evacuated. The mass

was then raised from its bed, when it was found to be adherent to about fifteen inches of the small intestine; this was dissected loose, and the tumour turned out through the incision, but left attached by its pedicle, which consisted of the left broad ligament and the Fallopian tube. At this juncture, the patient's pulse failed; her face assumed a death-like aspect, and she gasped as if expiring. By the prompt application of stimulants and excitants, she was restored. Her dangerous symptoms were attributed to the removal of the pressure caused by the tumour, and the substitution of chloroform for the ether.

The tumour was now raised by Dr. Craig sufficiently to allow Dr. Pierce to pass a needle armed with a double ligature through the base of the pedicle; the threads were separated near the needle, tightly secured on each side of the pedicle, and the tumour removed. The ends of the ligatures were secured in the lower angle of the incision. No bleeding vessels were found on an examination, and the edges of the wound were brought together and maintained by means of the interrupted suture and adhesive plaster. Cold water dressings were applied, and a bandage placed round the abdomen, the patient put to bed, and forty drops of laudanum administered.

The time occupied by the operation was forty minutes. The intestines caused no trouble during the operation, lying quietly in the position in which they were found when the abdomen was laid open. Two hours after the operation, the pulse was 108, and feeble; the surface cool, and a sensation of sinking experienced. Warm gruel, with one-fourth grain sulph. morphine was prescribed. Six hours after, the patient was more comfortable; morphine repeated. In ten hours, pulse the same; tendency to sleep.

On the 23d, at 8 o'clock, a.m., patient comfortable; had several refreshing naps through the night; urine drawn off before day; pulse, 128; some appetite; slight hemorrhage from wound; dressings allowed to remain. At 12 o'clock, m., pulse 135; urine has been drawn off twice; abdomen tympanitic; has taken one fourth grain sulph. morphia every six hours. At 6, p.m., pulse 140; abdomen still tympanitic; no pain; tongue coated and brown; slight nausea; prescribed light diet; continued morphia.

On the 24th, at 12 o'clock, m., pulse 100; no thirst or nausea; tongue beginning to clean; considerable appetite; slept well during the night; feels much better; dressings removed; wound healthy; adhesion progressing. From this time forward, no unfavorable symptoms occurred.

She continued, from this time, to improve; on the fifth week, one of the ligatures applied to the pedicle came away, and soon afterwards the other. Four months after the operation, her health appeared to be perfectly restored.

The tumour weighed eleven and three fourth pounds after its fluid contents were discharged. It was what is called multilocular, and consisted of five large cysts and numerous smaller ones.

ART. 120.—*A case of Puncture of the Ovaries per vaginam.*
By Dr. SCHNETTER.

(*Verhandl. der Phys. Med. G. in Wurtzburg*, 1854; and *Med.-Chir. Rev.*, Jan., 1855.)

This case is one of double ovarian dropsy, two cysts having been successively punctured in the way described.

CASE.—The patient was 25 years old; she had been delivered by the forceps, after a difficult labour, a year before she came under Dr. Schnetter's care; she had suffered from painful menstruation before pregnancy; and during pregnancy,

from unusual distension of the abdomen, and difficult respiration. Fever and marked symptoms of peritonitis followed delivery. Examination revealed a tumour reaching a few inches above the umbilicus, occupying the right hypogastrium. The os uteri was in its normal position. To the right, somewhat behind it, and a little higher, a round and but slightly elastic tumour was felt. The uterus was longer than natural, and bent forwards towards the pubis. The continuity of the tumour in the abdomen with that in the pelvis was ascertained by counter pressure. A curved trocar was pushed into the tumour, when it projected behind the cervix uteri. At first, blood, then a few ounces of discoloured pus followed. The trocar was driven further in, and by means of a curved knife passed through the canula, a further opening into the tumour made. A little bloody serum followed. A tube was adapted to the wound. Considerable fever and pain ensued. Some days after the operation, pressure being made on the tumour through the abdomen, about four or five pints of offensive, purulent, gelatinous matter, mixed with fibrinous shreds, escaped through the tube. The tumour disappeared. Discharge continued for some time. The patient's health did not improve. Four months after the first puncture, examined again: another tumour was found, projecting into the vagina on the *left* side. This cyst was punctured in like manner. Fever and alarming inflammatory symptoms followed. Six days afterwards an abundant discharge took place, gelatinous and fibrinous in character. The wound healed six months after the puncture. The patient eventually recovered her health; and eighteen months after operation there was no sign of relapse.

ART. 121.—*Ovarian Dropsy treated by Iodine injections.* By Mr. J. BAKER BROWN, Obstetric Surgeon to St. Mary's Hospital.

(*Lancet*, April 14, 1855.)

This case occurred in St. Mary's Hospital. In commenting upon it, Mr. Brown tells us that the iodine was taken up into the system, as evinced by the breath, and taste in the mouth. The urine, also, gave unequivocal evidence of its presence.

CASE.—Mary B—, was admitted into the Boynton ward on the 9th of December, 1854. She stated she had had two children, and one miscarriage. She was 27 years of age at the birth of the first, and 29 at the birth of the second, child. From the latter period, she had noticed herself getting bigger around the waist, and troubled much by flatulency; she has been regular in menstruation all through her illness; she has no pain, but suffers considerable inconvenience from leucorrhœa. Mr. Brown examined her on the 12th of December, and found a well-marked ovarian cyst, apparently unilocular, and fluctuation distinct; the measurement around the abdomen was twenty-nine inches below the umbilicus, and twenty-eight above. He placed her under medical treatment, with a view to improve her general health, which was much impaired by the secretion of the fluid into the cystic cavity. On the 20th, Mr. Brown proceeded to empty the sac. First placing the patient in the horizontal position, he then introduced a large trocar through the semilunar line, and evacuated twenty pints of a thin, turbid fluid, which was found to be strongly albuminous—almost solidified by the joint application of heat and nitric acid; it also contained abundant crystals of cholesterine. Mr. Brown then introduced a long, flexible catheter, and through it injected five ounces of the tincture of iodine (of the Edinburgh

Pharmacopœia) which is about double the strength of ours. The pain experienced was very trifling, described by the patient as merely smarting. The wound having been closed by strapping, he applied appropriate pads, and one of his many-tailed bandages. The patient was then placed in bed, two grains of opium given, and four ounces of port wine ordered for the next twenty-four hours. In the evening, the patient felt very comfortable, and had no pain or tenderness in her abdomen, only a nasty taste in her mouth, like sea-weed; her breath smelt of iodine. The amount of urine voided for the first two days was more than the fluid taken, but afterwards less. Mr. Brown then ordered a diuretic mixture, and the effect on the secretions was, that the amount of fluid taken corresponded to the amount voided. There was now an apparent refilling of the cyst, but it proceeded very slowly; the patient's appetite was good; she slept well, and felt no pain.

January 20th, 1855.—There appeared about two quarts of fluid in the cyst, but it did not seem to increase, and the patient was decidedly better in health. Mr. Brown then ordered her to wear one of his ovarian bandages, to keep up gentle pressure over the whole abdomen, so as to give support to the whole parietes, and to arrest the refilling of the cyst. In a few days she left the hospital, considering herself much improved, and showing no external signs of the disease. Mr. Brown said he had lately examined her, and could find no increase of fluid, but great improvement in her general health; and she says she is in excellent health and spirits.

ART. 122.—*A new method of Lithotomy in Women.* By M. VALLET, Surgeon to the Hôtel-Dieu at Orleans.

(Gaz. Hebdom., Feb. 2 and 16, 1855.)

The peculiarity of this operation is, that the incision through the vesico-vaginal septum is made *transversely*, and that the incision is closed by suture immediately after the extraction of the stone. In making the incision, M. Vallet avails himself of the help afforded by a sound, of which half the thickness of the lower fifth is made to turn upon a central axis, so as to form a cross by being arranged transversely to the longitudinal axis of the instrument. This sound is opened after it is introduced into the bladder, and then, on making a little traction, the cross-piece is brought transversely across the outlet of the bladder, and thus a transverse projection is made in the vagina in the position in which the incision has to be made. This cross-piece, indeed, is the guide for the knife, and it is grooved for the purpose.

The ease with which it may be performed, and the diminished chance of urinary fistula, are said to be the advantages of this operation. It certainly answered well in two cases, which are related by the author in his present paper.

ART. 123.—*Case of Lithotomy by the lateral operation in the female.* By Dr. MORTON.

(Glasgow Medical Journal, Jan. 1855.)

In this very curious case the nucleus of the calculus, or calculi, was formed by the bones of a fœtus. Many years previously, the patient

appears to have had an extra-uterine pregnancy, ending, as usual, in the escape of the fœtus into the abdominal cavity. There inflammation and ulceration is set up by the presence of the fœtus, and the wall of the bladder yielding to these destructive processes, the abortive mass is at length able to slip through the broken-down wall into the interior of the bladder. This appears to be the explanation. Dr. Morton also alludes to a similar case by M. Josephi, in which the bladder was opened above the pubis, and the remains of a fœtus extracted. The case is thus related:

CASE.—When in Ayrshire, in the end of last May (1854), I was requested to visit a Mrs. H——, a farmer's wife, the history of whose case, so far as it can now be ascertained, is as follows: At present about 47 years of age, she was married nearly twenty years ago, and about six years thereafter became pregnant, or at all events believed herself to be so. The menstrual discharge was arrested in November, 1839, and the usual symptoms of pregnancy manifested themselves; she had morning sickness, and the mammæ became swollen and tender. In the end of January, 1840, she had what was called a miscarriage, but, to use her own words, “not a proper miscarriage;” meaning, thereby, that no fœtus was observed to come away; there was only a discharge of bloody fluid *per vaginam*, with a few clots. She suffered much from severe pain and sickness, and a swelling about the size of a man's fist was observed in the hypogastric region, and to the left of the mesial line. This was the seat of violent pain, for which she was treated on the antiphlogistic plan, by leeches, blisters, &c., with partial relief.* The swelling still felt painful, especially when touched or handled in any way. The breasts continued enlarged and tender, occasionally more so than at other times, till near the Whitsunday following. In August of the same year, the menses resumed their flow.

Since the supposed abortion in January she has never been well, and has always suffered more or less pain in the seat of swelling; and both the pain and swelling had frequent alternations of increase and diminution. Though her catamenia have been regular since the August mentioned, yet her stomach has been irritable, her bowels ill to regulate, and, consequently, her general health indifferent. About three years ago, to the hypogastric pain were added gravel pains of some severity; and in a few months thereafter, pieces of bone, encrusted with calculous matter, occasionally found their way out *per urethrum*, and during the last two years many such have either been passed in that way, or picked out of the orifice of the urethra, by a druggist who is on terms of intimacy with the family. Some of these have been preserved, and will afterwards be referred to. She seems never to have experienced any annoyance from irritation of the rectum, notwithstanding its proximity to the causes of irritation.

At the time of my visit, I was on my way into town, had very little time at my command, no instruments with me for sounding, and was unable to learn anything of the state of the bladder by a vaginal examination, which could not be satisfactorily made, owing to the severe pain complained of, even on touching parts which had already been so long the seat of severe and protracted irritation. She was considerably emaciated, and had the aspect of a person who had suffered much. She felt that there were still other sub-

* A very intelligent country practitioner, who then visited this patient, is since dead, so that I am unable to say whether or not he suspected the nature of the case. He seems to have given no hint of it to the patient or her relatives.

stances in the bladder, supposed to be bones, and said that they seemed to be rubbing against each other. A specimen of her urine having been procured and examined, it was found to be acid and healthy, with the exception of a very slight mucous sediment, doubtless due to the vesical irritation. She was then advised to come to town for treatment.

On the 18th of July, this person and her husband came to the city, and on the following day, with the kind and able assistance and advice of Dr. Andrew Buchanan, after the inhalation of chloroform, a careful examination of the bladder was made, and, by the sound, it was readily ascertained that there was at least one foreign body within it; our supposition was, that there were several, and that probably these were bones, although we contemplated the possibility that there were also calculi. Attention was also given to the state of the uterus, which, by digital examination felt small; the os was closed and smoothly rounded, with no irregularity of surface, and presenting no indication of ever having been disturbed, as in pregnancy. An attempt was made to introduce a uterine sound, but it was evident this could not be easily effected, and it was not thought justifiable to employ force. There seemed to be no intimate connexion of the uterus with the bladder. The patient was recommended to submit to operation, and readily consented. My intention was to adopt the plan lately proposed, and in several cases already followed, by Dr. Buchanan. This may be called an adaptation of the lateral operation of lithotomy in the male to the female. It consists in cutting down upon a director or grooved staff held by an assistant in the urethra, the incision being made with a common scalpel on the left side of the vulva, beginning opposite the clitoris, and cutting obliquely across the left labium minus, in a line with the ramus of the ischium. When the groove in the director is felt by the finger in the wound, a straight bistoury is then passed into the groove, run along into the vesical mouth, and the incision enlarged by cutting outwards and towards the tuberosity of the ischium, care being taken not to penetrate the vaginal wall; after which the finger, guided by the director, easily reaches the interior of the bladder.

On the 20th July, near 1 p.m., assisted by Drs. Buchanan and Pagan, and Mr. A. Buchanan, I proceeded to perform the operation now described. The patient having been put under the influence of chloroform, and then placed in the usual position for lithotomy, the director introduced, and indications of the presence of one or more foreign bodies plainly perceived by all, the incision was made, the groove felt, the bistoury carried along towards the bladder, and then outwards towards the ischial tuberosity, and the finger without difficulty introduced into the bladder. The director was then withdrawn, two stones were felt, and first the one and then the other extracted, the first being the larger of the two, and requiring gentle traction. On again introducing the finger, a third stone was felt, and after some difficulty and delay in obtaining a proper hold, it was also extracted, and proved to be of a size intermediate to the other two. A bone was then felt in the bladder, adherent to the vesical wall, both ends of it being imbedded in the left side of the viscus; and by keeping the finger steadily fixed upon it, and thus guiding a long and slender pair of forceps to its seat, a hold was at once obtained, and it was extracted with ease. This proved to be the middle portion of a femur. On a careful examination of the interior of the bladder by the finger, we satisfied ourselves that nothing further remained requiring removal.

After the operation, which was completed in about ten minutes, the patient had some nervous trembling, and felt somewhat faintish for two or three hours, when she rallied completely, and after a very slight opiate draught,

passed a comfortable night. She had slight smarting at the wound from the urine passing over the raw surface; but, with this exception, made little complaint, and always averred that the slight uneasiness she now felt was not to be compared to the constantly harassing pain she had formerly suffered in the region of the bladder. Three or four days after the operation, she passed her urine chiefly *per viam naturalem*, and by the end of a week entirely so, and then was able to sit up with comfort, and to take some nourishing food with relish—a circumstance somewhat new to her. Accustomed as she had been to the open air of the country, the confinement to the house in town, about nine days after the operation, induced a slight bilious attack, which was speedily relieved by a blue pill, followed by a dose of castor oil.

On the following Tuesday (August 1st), twelve days after the operation, she was able to walk out, and was conveyed home, a distance of more than forty miles, by rail. Since that time I have had several notes from her husband, who, while expressing his own and her gratitude for what had been done for her, states that she continues well, enjoying more comfort and freedom from pain than she has done for many years. Her appetite and general health are said to be good; she is able to attend to her usual avocations, but still feels a very slight degree of pain in making water, which she can retain for several hours.

The stones extracted were light, and more bulky than weighty, and were found to weigh respectively 160, 100, and 40 grains. In consistence they were rather soft and friable. The bones which the patient had passed *per urethram*, and the one extracted during the operation, were submitted to Dr. Allen Thomson, to whose kind attention I am indebted for the following classification of them:—

LIST OF FRAGMENTS OF BONES, &c.

1. Fragment of parietal bone.
2. Several small fragments of tabular bones.
3. Right great wing of the sphenoid; left lesser wing of do.; body of do.
4. Basilar process of the occipital; right condyloid part of do.; part of left condyloid portion of do.
5. Two fragments, probably of lower maxilla.
6. Fragment of right clavicle; nearly the whole left clavicle.
7. Small fragment of scapula.
8. First left rib; second right rib; a right rib near the middle.
9. Middle part of the shaft of right humerus; do. of left side.
10. Left ulna.
11. Right ilium.
12. Middle part of the shaft of the right femur; an imbedded fragment, probably of the left femur.
13. Some other small fragments not determined.

These fragments appear all to belong to the same skeleton. It is not easy to pronounce decidedly upon the age of the fœtus to which they belonged, on account of the broken condition of most of them. I am inclined to think they must have belonged to a fœtus of about six months.

A. T.

With the above opinion, Dr. Pagan has expressed his concurrence. The number of bones and fragments in my possession is about thirty, besides one in each calculus as a nucleus, and it is believed that several may have been lost.

SECTION OF CALCULI.—To Dr. William Aitken I am indebted for a careful section of the three calculi; and, as anticipated, each was found to have a bony nucleus. The largest contains a tibia, in a very good state of preservation, and lying in the long diameter of the calculus. The second in size contains some flat bone, probably a portion of the frontal, or some other cranial bone; and the smallest contains a bony structure, presenting large cellular divisions, most probably part of one of the maxillary bones. To make certain of some of these points, destruction of the calculi would be necessary. No distinct marks of attrition were observable on any of these calculi.

Having myself ascertained the presence of a phosphatic salt, and of carbonate of lime, in one of the calculi, I became desirous of a more accurate analysis, and accordingly handed a small portion of the fragments of another of the stones, separated while it was being cut by the saw, to Dr. Robert M'Gregor, who favoured me with the following note, containing the results of his experiments upon it:—

“1. The calculous matter which you handed to me the other day for examination, dissolves readily in muriatic acid, with effervescence, and is precipitable by caustic potash, in the form of a cloud, which, under the microscope, is amorphous. 2. It gives off ammoniacal vapours on the addition of potash, or the application of heat. 3. It fuses before the blow-pipe into a pearly globule. 4. It is fusible calculous matter, with a trace of carbonate of lime.”

It has been noticed by authors, that the disposition to the formation of phosphatic concretions is very rarely original. In ordinary cases, they occur subsequently to the formation of calculi of some other kind. A source of irritation seems requisite to give origin to that state of the system, entitled the phosphatic diathesis; and usually this is found in the presence of a calculus of antecedent formation. An example of irritation from a different and rare cause, leading to a similar result, is presented by the case before us—a proof that irritation is a principal link in the chain of causation, and that the resulting deposit is not in any degree owing to the chemical constitution of antecedent calculi, the usual sources of such irritation.

(C) CONCERNING DISEASES OF CHILDREN.

ART. 124.—*Case of Smallpox in utero.* By M. BLOT.

(Gaz. Méd. de Paris, Nov. 25, 1854.)

This case is related in the Report of the Proceedings of the Parisian ‘Société de Biologie.’

CASE.—The mother of the little patient, previously in good health, and six months advanced in her second pregnancy, was attacked with smallpox on the 17th of July, 1854. She had not been vaccinated, but the attack was not severe, and she recovered without any secondary fever. During her illness, the movements of the child were more continuous than they were before, but not so energetic; during her convalescence the same movements became more

and more feeble, until they ceased altogether, and the child was felt to fall towards the side on which the mother happened to lay. Two days after this cessation, labour came on unexpectedly, and the mother removed to the 'Clinique d'Accouchements,' where she was presently delivered of a male foetus of the six and a half or seventh month, *covered with pustules of small-pox*. This foetus presented unequivocal evidence of having been recently alive, and there was every reason to believe that it had had smallpox at the same time as its mother, and that it had died from this cause.

ART. 125.—*Spontaneous Gangrene in a child eight months old.*

By Mr. CHARLES SIDLEY, of Edinburgh.

(*Edin. Medical and Surgical Journal*, Jan., 1855.)

This very remarkable and singular case is recorded in the 'Case-book' of the journal cited above.

CASE.—The child was passing through a second attack of hooping-cough, and the disease presented no unfavorable symptom till, on the 22d May, 1853, there was observed to be considerable feverishness, with bilious diarrhoea. The breathing was unaffected. In the evening of the 23d, a reddish ring appeared around the left thumb. A few hours afterwards, this part became quite black, and the dark colour soon spread over the whole hand. The left half of the scalp, and the corresponding ear at the same time assumed a purplish dark colour, which, during the night, spread over the entire scalp. In the morning, on examination, the scalp, both cheeks, and both hands were gangrenous; notwithstanding which extensive disease, the child remained sensible, and continued to suck until twelve hours after the first appearance of the disease, when it expired.

ART. 126.—*On the Anæmia of Infancy.*

By Professor MAUTHNER, of Vienna.

(*Journ. für Kinderkr.*, July and Aug., 1854; *Medical Times and Gazette*, Nov. 4, 1854.)

The author remarks that, for many years, the practice of venesection has been on the decline, and he quotes the words of Professor Richter, of Dresden: "Poverty of blood is, next to tuberculosis and cancer, the increasing evil of our time, which will bring down a gradual deterioration of the race, and therefore merits our most earnest consideration." According to Valentiner, most neuralgic affections are caused by anæmia; and, according to Trousseau, chlorosis now prevails in the general pathology of the female. An anæmic mother will produce anæmic children; anæmia may be congenital, or acquired from too rapid development and quick growth. It is difficult to believe in the disease as congenital, the quantity of blood in the infant's tissues being normal. Valentin has shown that the amount of blood in the newly born is proportionately greater than in later life; for a child of five to six pounds has nearly two pounds of blood; while at the age of thirty it barely attains one fifth of the weight of the body. But in infancy, as in old age, the watery constituent is more considerable than in middle life.

The cause of this congenital anæmia lies in the general corporeal weakness of the mother, whence also it comes that there are so many abortions and early deaths. Want of proper food during pregnancy exerts a potent influence, too commonly at work among the lower orders, oppressed with want and care; and the younger children are more subject to the disease, because the exhausted mother loses in time the power of nourishing her children by her own milk, and the father has not the means of procuring a wet nurse. A child born of a mother who has suckled another infant during her pregnancy generally suffers from poverty of blood. Losses of blood, or profuse mucous discharges, by injuring the mother's health, are to be regarded as prejudicial to healthy foetal development. An aged or diseased father commonly begets an anæmic child. Congenital syphilis must also be regarded as a cause. The morbid change in the blood being unknown, we must be content with the term "anæmia syphilitica." It is not always recognized, but it is of most momentous importance as regards the rising generation. Should an infant affected with this disease be vaccinated, a peculiar glandular disease is apt to ensue from this second poisoning of the blood. The author proceeds to enumerate the symptoms of congenital syphilis. The child suffers from excoriations about the mouth and anus, &c.; from roseola, pemphigus, eczema, psoriasis, or from a peculiar tenuity, smoothness, and transparency of the epidermis. They do not possess power to resist external influences; they are long in teething; tuberculosis is apt to ensue in the course of time.

The anæmia of development comes on when growth at any period is very quick. Hence we have the anæmia of dentition, the anæmia of puberty, or chlorosis.

From experiments upon animals, Nasse has shown that animal diet renders the blood more coagulable than vegetable diet, and increases the number of the blood-corpuscles. From sugar and starch-meal there is formed a glutinous lymph plasma, but no corpuscles. A purely vegetable diet, therefore, is not suited for infancy; the more so from the anatomical fact, that the cæcum, that part of the intestinal canal where vegetable digestion goes on, is but imperfectly developed at that period. Anæmic children are very apt to suffer from inflammations. Nature endeavours to excite a re-action from this depressing influence; and stasis of the blood commonly ensues in organs unfitted for active circulation; but the exudations tend only yet more to impoverish the blood; and venesections materially increase the evil. One of the evils of infantile anæmia is hemorrhage from the congested and delicate vessels of the large intestine. This occurrence is frequently overlooked, or confounded with other disorders, such as convulsions. The author has verified the fact by dissection.

When the plastic power of the organism, says Canstatt, is exhausted by rapid natural and morbid evolutions, then tuberculosis suddenly forms, and the latent material begins to be deposited upon any excitement in the different viscera. Thus, it is to be feared, during the blood-impoverishment of dentition; and it attacks especially children subject to perspirations, and to excited pulsations of the heart.

The practitioner should never forget, in considering the diseases of childhood, that sudden attacks, even death itself, may occur just as easily in children from anæmia as from hyperæmia. Thus, cases of convulsions and other attacks, once regarded as inflammatory, require, in the present day, more careful examination and more accurate diagnosis.

ART. 127.—*On infantile Paralysis.* By Mr. WM. ADAMS, Assistant-Surgeon to the Orthopædic Hospital.

(*Assoc. Med. Journal*, April 6, 1855.)

Whether paralysis of particular muscles or limbs, independent of traumatic lesion, is ever congenital, Mr. Adams considers to be at least doubtful. The cases related of limbs remaining flaccid and useless in infants born asphyxiated, after difficult and instrumental labours, and of facial paralysis, usually of one side, and sometimes accompanied with loss of power in the corresponding arm, &c., which had in some instances been satisfactorily traced to traumatic lesion—cannot be admitted as examples of the affection described. Infantile paralysis usually occurs between the ages of six and eighteen months, generally during difficult dentition, and often preceded by fits or convulsions. It may, however, occur at earlier, or at later periods. In one of Mr. Adams's cases, it occurred at the age of five years; and both arms, as well as both legs, were paralysed. It is said frequently to happen without any convulsive disorder, and when the children are in robust health. Mr. Adams, however, considers that in many of these cases the children had fits, which passed away unnoticed in the night; and careful inquiry had convinced him that in most cases the children were at the time suffering from a slight febrile condition. Many children, apparently in good health, became heated and feverish during the night; the skin, especially of the face, being hot and burning, and the head freely perspiring. Paralysis in children may result from intestinal irritation caused by worms, indigestible food, &c. The cause may be either centric or eccentric irritation. It not infrequently follows marked febrile disorders, especially measles and hooping-cough. It is the author's opinion that where many muscles or entire limbs are affected, and where the paralysis is persistent, it depends upon structural lesion of the nervous centres, brain, or spinal cord; that in similar cases, in which the paralysis is transient, it depends upon congestion of the nervous centres, sometimes accompanied with effusion, which afterwards becomes absorbed; and that where single muscles, or a group of associated muscles, are affected, it depends upon some local failure of nutrition in the nerves supplying the muscles, under a general, though perhaps slight, febrile condition. M. Bouchut describes this affection under the title of "myogenic or essential paralysis" ('*Practical Treatise on the Diseases of Children*,' translated by Mr. P. H. Bird); and admits, as a cause, lesion of the nervous centres and cords only in those cases which succeed febrile convulsions. The other cases, which he groups in two classes, viz., those accompanied with pain in the affected limb, and those following

convulsions without febrile excitement ; and in these he considers the cause to be primarily and essentially an alteration of the elementary tissue of the substance of the muscles. The nature of the affection in these cases he regards as "entirely rheumatic," and traces it as a frequent result of exposure to cold. Mr. Adams has not seen any cases accompanied with pain ; but, upon the ground of deficient evidence, he doubts the rheumatic character of the affection under any circumstances, and regards it as probable that the children who, in restless nights, throw off the bed-clothes, are frequently suffering from febrile or eccentric irritation. No evidence is given of alteration in the elementary structure of the muscles in the early stages ; and Mr. Adams considers the myogenic theory to be advanced without sufficient evidence. M. Bouchut states that the development of the paralysis is usually slow. In the author's experience, it had always been sudden ; and it is considered that, in the cases of supposed slow development, the consecutive phenomena—contraction and atrophy—had taken place. In these cases, the limb is often said to get weaker : when it occurs in the leg, the lameness increases, but this is due to the supervention of contraction, and not to any increase of the paralytic affection, which, indeed, is not infrequently improving. M. Bouchut observes that, "whether at the beginning or at the end of the myogenic paralysis, sensation remains quite perfect." In this the author entirely concurs. Mr. Adams has also noticed that there does not appear to be any disposition in the paralysed muscles to become rigid, as in cases of adult paralysis recently noticed more particularly by Dr. Todd. The muscles either remain flaccid throughout life, or, by the spontaneous disappearance of the paralysis, they are restored to a healthy condition ; or complete recovery is arrested, and the muscles remain partially paralysed through life. This latter is believed to be the most frequent termination ; the complete recovery second ; and the persistent flaccid condition third, in relative frequency. The paralysis most commonly affects some of the muscles of one leg ; very frequently the leg and arm of the same side ; occasionally both legs ; and very rarely both legs and both arms. When single muscles are affected, the most frequent to suffer are—1, the extensor longus digitorum of the toes ; 2, the tibialis anticus ; 3, the deltoid ; 4, the sterno-mastoid. When particular groups of muscles are affected, the most frequent to suffer are—1, those on the anterior part of the leg, forming the extensors of the toes and flexors of the foot ; 2, the extensors and supinators of the hand, always together ; 3, the extensors of the leg, and with them generally the muscles of the foot in the first class. At the time of seizure, the author is unable to say whether any other muscles were affected ; but if so, they completely recovered, as in the last stage the cases presented well marked examples of paralysis of single muscles or groups of muscles. Sir B. Brodie lately mentioned to the author a case brought to him in which the muscles of deglutition were paralysed in a child. The attempts to swallow were very painful to witness. He did not know the result, but death from starvation probably took place. In the Royal Orthopædic Hospital, where these cases apply in considerable numbers, no case had been seen in which the muscles of the hip-joint were in-

volved. Some patients, in whom both legs were affected, the rectus and other muscles of the thighs, as well as those of the legs being paralysed, have never walked at all; but the existence of power in the muscles of the hip-joints enables us to make these patients walk, by mechanically fixing the knee and ankle-joints, with considerable freedom. This affection exhibits a strong tendency towards spontaneous cure. In some cases, the paralysis completely disappears, even when entire limbs are involved; but in reference to severe cases, Mr. Adams believes with Sir B. Brodie, that unless recovery takes place within a few months, the paralysis is generally persistent through life. In slight and moderately severe cases, the rule is, that either complete recovery or very great improvement takes place; and this frequently several years after the seizure. Numerous cases are seen at the Orthopædic Hospital in all stages of spontaneous recovery. The second stage is marked by deformity, produced by adapted atrophy of certain muscles, determined by paralysis of the opponent muscles and position of the part, as seen in the commonest form—elevation of the heel. The author advises the removal of the contraction in the lower extremities by division of the tendons, whenever it interferes with the motions of the joints necessary to progression and the erect position. Loss of power can be subsequently compensated for to a great extent by mechanical means, the joints being either rendered available in progression, or fixed. Infantile paralysis lays the foundation of a very large proportion of all the non-congenital deformities, itself being frequently only a transient condition. If the mode of production of these deformities were rightly understood, their prevention would be easy. Passive muscular exercises, according to the circumstances of the case, and properly adapted mechanical supports, are the preventive measures indicated. In the medical treatment, gentle mercurials for a few months after the seizure are recommended, if not injurious to the general health, but, beyond this period, any internal remedies, except those calculated to improve the general health, are of little use. Febrile irritation must be allayed; and in difficult dentition the gums may be lanced. Although this cannot remove the mischief, it may contribute to this end, and diminish its effects. Mr. Adams has not seen benefit from blisters or other counter-irritants, though he had used them. He prefers shampooing, galvanism, warm clothing, sea-bathing, and passive exercises, as likely to aid the vigorous and frequently successful efforts made by nature. The hæmospastic apparatus invented by Dr. Junod was very useful in maintaining a natural temperature in the paralytic extremities. To some extent the apparatus had been useful in keeping a good supply of blood in the muscles, and preventing atrophy.

ART. 128.—*Prolapsus Ani treated by Strychnia and the actual Caustery.*
By MR. ATHOL JOHNSON.

(*Medical Times and Gazette*, Nov. 18, 1854.)

Mr. Johnson relates two cases which were treated by him in this manner at the hospital for sick children. The plan was originally proposed by M. Duchausay (v. 'Abstract,' Vol. XIX, p. 167).

CASE 1.—Isabella Addington, æt. 2 years, a thin child, of strumous aspect, was admitted, May 6, with the rectum protruding about an inch, forming a large, solid, red mass, with the aperture of the bowel in the centre, the sphincter being much dilated around its base. The child had been subject to prolapsus for some months, but for the last fortnight the bowel is said to have been down almost constantly, the mother being unable or afraid to return it.

By a little gentle manipulation, the gut was replaced; but the sphincter remained relaxed, so that two fingers could easily be introduced; and on the child beginning to cry, the prolapsus recurred immediately. The intestine was again returned, and this time kept up by means of a piece of gutta percha enveloped in lint and secured by a bandage. Mild laxatives, along with tonics, were administered, and a nourishing diet given. The bowel ceased to come down. The sphincter partially regained its tone; and the child was discharged May 16th.

On the 3d of June she was again admitted. She had evidently been much neglected. The bowel was now protruding about an inch, and had been allowed to remain so for some days. The sphincter was much relaxed. It was now determined to try to produce a more permanent contraction of the muscle. Accordingly, a small blister having been applied to the cleft between the nates, $\frac{1}{20}$ th grain of strychnia was applied. No convulsive twitches were noticed; but two hours afterwards, when a motion took place, the bowel did not descend.

On the following day a fresh prolapsus took place, but not to the same extent as before. On the fourth day, $\frac{1}{16}$ th grain of strychnia was applied to the side of the anus, the cuticle having previously been removed. Pain was complained of, and the child seemed uneasy, but no muscular contractions were noticed.

Five days afterwards, the bowel still protruding a little after having a motion, $\frac{1}{16}$ th grain of strychnia was again applied in the same situation. From this time no further descent of the rectum occurred; the sphincter was more firmly contracted; and on June 30th the patient was discharged, and has not since applied for relief.

In this case the affection was not very severe, and, had the child received a fair amount of attention at home, it is probable that no surgical measures need have been had recourse to; as it was, however, the application of the strychnia certainly seemed attended with benefit; but some rather strong objections attended its use, which will be alluded to at the end of the next case.

CASE 2.—Julia Seymour, æt. 4, was admitted, July 2d, with the rectum protruding quite two inches; the mucous surface being inflamed, and coated with a muco-purulent discharge. There was said to be great pain on any motion passing, so that her friends had allowed her bowels to be much confined, from their dread of ever giving her any opening medicine. She had been subject to prolapsus for about six months, and for the last six weeks

the bowel has scarcely ever been in its natural position. After a little manipulation, the gut was replaced; the sphincter, however, remained much relaxed, allowing a couple of fingers to be introduced through the anus, without any resistance.

Under the influence of rest and laxatives, the mucous membrane became more healthy; but the sphincter not regaining its tone, and the bowel constantly descending, on the 6th of July $\frac{1}{8}$ th grain of strychnia was applied over the tip of the coccyx, the cuticle having been previously removed. On the 7th, the strychnia was repeated, and again on the 8th. The application of the strychnia produced a good deal of "twitching" about the sphincter, which lasted for upwards of half an hour, and, on one occasion, rather severe convulsive action of the muscles of the lower extremities.

Some, but no very decided benefit followed the use of the strychnia, and its application was attended with so much inconvenience as to cause its discontinuance.

On the 26th of July, the rectum still protruding to a considerable extent every time of a motion being passed, and the aperture of the anus being still in a relaxed state, the patient was rendered insensible by chloroform, and the actual cautery applied in four places, at the junction of the skin with the mucous membrane. The first time of having a motion after the operation the bowel descended slightly, but for some days afterwards it did not come down at all, and the anus remained in a much more contracted state. On the 23d of August, however, there being a little return of the prolapsus, the cautery was again applied, in one spot to the side of the anus.

There was again a slight repetition of the affection on the occasion of administering an injection to bring away some thread worms. On the 29th of September, there having been no prolapsus for some time, she was discharged as cured.

Appended to these cases are the following remarks:—"In the ordinary run of cases of prolapsus ani among the children who apply at the hospital, attention to the state of the bowels, tonics, and astringent injections are usually sufficient. In those children, however, who have been neglected, and in whom the rectum has been suffered to remain down for a considerable time, the aperture of the anus becomes much dilated, the sphincter appears to have lost its tone, and the above-mentioned treatment fails to effect a cure. Is the local application of strychnia of service in these cases? In the comparatively mild forms of the disease, I think that it is of some use, but in the more aggravated cases it cannot be depended upon. Practically, too, I found considerable objections to its use in children. It is necessary first to remove the cuticle, and then to apply the strychnia several times. This proceeding, however, is attended with a certain amount of pain, and it becomes each time more and more difficult to keep the little patient sufficiently quiet to allow of the strychnia being properly administered; either more is used than is desired or even safe, or else, perhaps, in the struggle some is lost, and a sufficient quantity is not employed. Moreover, in practice it is not desirable, if it can be avoided, to have to repeat any operation of this kind frequently in young children; the little patient becomes fretful, impatient, and suspicious, the struggles are violent, and almost as much harm is done as good effected.

"A more efficacious, as well as a more convenient measure, in these

severe forms, would seem to be the application of the actual cautery, in the mode suggested by M. Guersent, of the Hospital for Children at Paris. This operation can be performed easily under chloroform; is, of course, unattended with suffering; and seldom requires to be repeated.

"The iron, having a button-shaped point, well heated, is applied to the junction of the skin with the mucous membrane at the verge of the anus, usually in four separate points, to such an extent as to make a pretty decided eschar. It may be mentioned, that even when the patient is insensible, the bowel generally descends with some force during the operation, so that it is necessary to be prepared with a piece of sponge or lint to protect the protruding gut while the iron is being applied to other points. Scarcely any pain is complained of afterwards, the child being ready to play and laugh almost as soon as it recovers from the effects of the chloroform. Simple dressings may be applied to the resulting sores, which usually heal without much trouble or difficulty.

"With regard to the *modus operandi* of this operation, I am inclined to think, from the immediate benefit produced, that it acts, to some extent, at any rate, by the powerful stimulus to the sphincter muscle, increasing its tone, rather than by the resistance afforded to the descent of the gut by the contraction of any cicatrix which may subsequently be produced.

"From the little experience I have already had, I certainly prefer this operation to the application of strychnia in those cases of prolapsus ani in which any surgical measures are required."

ART. 129.—*Case of Anus opening into the Vagina, successfully treated by Amussat's operation.* By Dr. HARGRAVE, Professor of Surgery to the College of Surgeons in Ireland, &c.

(*Dublin Medical Press*, Dec. 27, 1854.)

This case was read on a recent occasion before the Surgical Society of Ireland.

Mary Anne W—, æt. 12 months, admitted into the City of Dublin Hospital, October, 1854, presented the following malformations: no appearance of anus, the ano-perineal region being one, and slightly convex externally. The rectum, by means of a small orifice, communicated with the posterior portion of the vagina, through which narrow opening the fæces were discharged in vermicular coils since the child's birth. This opening was about three lines distant from the fourchette, and admitted a No. 4, bougie with a little difficulty into the rectum, thence it could be passed up into the sigmoid flexure of the colon, when withdrawn, it was covered with fæces. This malformation exhibited the characters of the cloaca of the bird.

The child was pallid, limbs thin and flabby, and from birth was always supported by the breast milk, as her mother was apprehensive that any other food would have disagreed with her bowels, and render them constipated, which, when it occurred, was more distressing to the child than the opposite state.

When the ano-perineal region was carefully inspected during the nisis

made by the child to empty the rectum, the outline of the intestine was visible, presenting a course slightly convex to the integuments. It was this appearance which decided me on the selection of the linear incision for the operation, which I shall again refer to in the details of the case.

Two different attempts had been made to remedy this deformity by operation. Both failed, the line of the incisions being still evident in the perineum.

Operation, October 6th.—The child was placed in the position as for lithotomy, without the hands and feet being secured to each other by ligatures. Equal parts of chloroform and rectified spirits of wine were inhaled, she soon felt their influence. I then made a free incision in the mesial line of the perineum one inch in extent, terminating *a little anterior to the coccyx*, dividing the integuments, and exposing an abundant quantity of firm adipose tissue. A curved aneurismal needle was introduced into the vagina, and passed from it into the rectum, which assisted in making it prominent. After a tedious and deep dissection, the rectum was exposed at fully an inch and a half distance from the surface; then with my finger and the handle of the scalpel, I teased out the cellular membrane, which was very firm and dense, for the purpose of freeing the gut from its connexions to enable me to draw it down towards the surface of the wound. In this step of the operation I did not succeed to my satisfaction, as the rectum was too adherent, so that if I persevered in the attempt, it might have been lacerated. The rectum was now freely opened on its posterior and *left aspect*, giving exit to fæces. A ligature was next passed through the gut on each side corresponding to the tubera ischii, and through the integuments, which secured them and the rectum to each other.

The opening into the intestine freely admitted my little finger.

The operation was tedious for the following reasons:

1st. The frequent discharges of fæces through the vagina, caused by the irritation of the incisions, which obscured the parts that were being incised, and more so when the rectum was opened.

2d. The depth at which the rectum was from the surface, and presenting no cul de sac, compelled me to proceed cautiously in the dissection. Little blood was lost during the operation, though two vessels required to be tied; one rather large in so young a subject.

The dressing of the parts consisted of a piece of prepared sponge, covered with well-oiled lint in form of a small rectum bougie, a compress, and T bandage.

The little patient seemed not much exhausted by this tedious operation, and when applied to the breast, sucked most healthily, and even ravenously.

Three p.m.—Passed the time since the operation dosing with some sleep, and was easily roused; the temperature of the skin slightly raised; no evacuation from the rectum, which was not expected, as during the operation copious ones took place. She was given five drops of the solution of Mur. Morph. in one drachm of syrup.

7th.—Good night; her mother states that she sucks well, and better than for some time previous; bowels discharging freely through the artificial opening.

Six p.m.—Passed a very restless day, and was very cross, forcing out the tampon from the rectum and the wound, which showed signs of incipient suppuration. A square fold of linen, well oiled, was substituted for the tampon, and introduced by the finger through the wound high into the rectum, and ten drops of the Sol. Mur. Morph. given.

9th.—Fæces passing freely through the wound, which at the edges is beginning to assume a granulating appearance; appetite good, but is suffering from teething. Gums to be lanced, and to have ten drops of the Sol. Mur. Morph. The wound was dressed with the linen tents.

10th.—Wound suppurating; the fæces passing through it, and no urine, as she micturated freely when being dressed, all of it was discharged through the natural passage, being ejected with great force. She was ordered to have bread jelly for her diet to be given sparingly, and to continue the Mur. Morph. drops.

12th.—Report favorable, but being purged, was ordered the compound chalk powder, chalk with opium, and Dover's powder every fourth hour; 12 grs., 6 grs., 2 grs. in p. sex. i, 4tis horis.

14th.—Bowels better; powders continued; wound less in size near the vagina. A No. 4 bougie was introduced into the rectum, when a free discharge of fæces followed. A small cylindrical piece of prepared sponge was passed into the rectum, and the wound dressed with a compress and the T bandage.

16th.—The anterior part of the wound uniting; the posterior part of it assuming a circular and cylindrical form; bowels again relaxed, perhaps due to teething. Ordered gr. iv., Ext. Hæmatox. c. gut. ij Vin. Ipec., in cinnamon water, bis in die.

25th.—Going on most favorably; inner surface of the wound cicatrizing.

31st.—Since last report, the fæculent matter has passed twice partly through the vagina; general health much improved. This day I introduced into the rectum a piece of No. 6 catheter, secured to a disk of gutta percha, when some fluid fæces were instantly discharged through it, proving the presence and action of a sphincter muscle to the gut. The length of the catheter was two inches.

Nov. 2d.—When being dressed this day, the disk of the piece of catheter was found detached, but no evidence of the latter. A bougie was passed fully six inches into the rectum to sound for the catheter, but it could not be detected. A bougie of gutta percha with a disk of the same material was now passed into the rectum, and confined by means of adhesive plaster.

3d.—The mother, when dressing the child this morning, found the piece of catheter bougie in her clothes, which I had introduced forty-eight hours previously; no inconvenience followed this retention, which to me was an additional proof of the action of a sphincter muscle.

13th.—Her mother states that she passes all the fæces through the artificial opening; the child much improved in her general health.

16th.—Discharged cured, being six weeks under treatment.

REPORTS
ON THE
PROGRESS OF THE MEDICAL SCIENCES.
January—June, 1855.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON PRACTICAL MEDICINE, &c.

On the Mode of Communication of Cholera. 2d edit. *illustrated with maps.* By JOHN SNOW, M.D., L.R.C.P., President of the Medical Society of London. 8vo, London, Churchill, pp. 263, 1855.

Dr. Snow agrees with those who consider that cholera is communicable from person to person, and he relates and quotes a number of instances which (he considers) leave no room for doubt on this point. He then says—

“Besides the facts above mentioned, which prove that cholera is communicated from person to person, there are others which show, first, that being present in the same room with a patient, and attending on him, do not necessarily expose a person to the morbid poison; and, secondly, that it is not always requisite that a person should be very near a cholera patient in order to take the disease, as the morbid matter producing it may be transmitted to a distance. It used to be generally assumed, that if cholera were a catching or communicable disease, it must spread by effluvia given off from the patient into the surrounding air, and inhaled by others into the lungs. This assumption led to very conflicting opinions respecting the disease. A little reflection shows, however, that we have no right thus to limit the way in which a disease may be propagated, for the communicable diseases of which we have a correct knowledge spread in very different manners. The itch, and certain other diseases of the skin, are propagated in one way; syphilis, in another way; and intestinal worms in a third way, quite distinct from either of the others.”

The author is of opinion that the pathology of cholera indicates the manner in which it is communicated. He considers that, if the blood were poisoned in the first instance, the disease would be ushered in by fever or other general symptoms, whilst, on the contrary, he says, that the affection of the alimentary canal precedes the other symptoms, and is in fact, the cause of them. He says, “in a few cases, indeed, there are dizziness, faintness, and a feeling of sinking, before discharges from the stomach or bowels actually take place; but there can be no doubt, that these symptoms depend on the exudation from the mucous membrane, which is soon afterwards copiously evacuated. This is only what occurs in certain cases of hemorrhage into the alimentary canal, where all the symptoms of loss of blood are present before that fluid shows itself in the evacuations.” He quotes the

analysis of the blood of cholera patients, by Drs. Garrod and Parkes, and makes some calculations to show that, in the healthy adult of average size, it is only necessary that five pints of fluid should be effused into the stomach and bowels, in order to reduce the blood to the condition of that in the stage of collapse of cholera; and he believes that in the less acute cases, when the evacuations exceed the above quantity, absorption is not altogether suspended, or some of the liquids which are drunk pass through the alimentary canal. He considers that the diminished volume and the thickened state of the blood account satisfactorily for all the symptoms of cholera, and that the blood is not poisoned, except in cases of consecutive fever. He adduces the fact of the temporary restoration of the patient by diluting the blood with a weak saline solution, as an additional proof that the circulating fluid is not poisoned in the collapse of cholera.

The author deduces his conclusions on the mode of communication of cholera from the above views of its natural history and pathology in the following manner:

“Diseases which are communicated from person to person are caused by some material which passes from the sick to the healthy, and which has the property of increasing and multiplying in the systems of the persons it attacks. In syphilis, smallpox, and vaccinia, we have physical proof of the increase of the morbid material, and in other communicable diseases the evidence of this increase, derived from the fact of their extension, is equally conclusive. As cholera commences with an affection of the alimentary canal, and as we have seen that the blood is not under the influence of any poison in the early stages of this disease, it follows that the morbid material producing cholera must be introduced into the alimentary canal—must, in fact, be swallowed accidentally, for persons would not take it intentionally; and the increase of the morbid material, or cholera poison, must take place in the interior of the stomach and bowels. It would seem that the cholera poison, when reproduced in sufficient quantity, acts as an irritant on the surface of the stomach and intestines, or, what is still more probable, it withdraws fluid from the blood circulating in the capillaries, by a power analogous to that by which the epithelial cells of the various organs abstract the different secretions in the healthy body. For the morbid matter of cholera having the property of reproducing its own kind, must necessarily have some sort of structure, most likely that of a cell. It is no objection to this view that the structure of the cholera poison cannot be recognized by the microscope, for the matter of smallpox and of chancre can only be recognized by their effects, and not by their physical properties.”

Such is the train of thought which has led Dr. Snow to form his opinions on the mode of communication of cholera, but he considers that he can now adduce sufficient direct proof to establish the above manner of propagation of the disease, irrespective of its pathology; and he believes also, that some diseases, as typhoid fever and plague, in which the blood is undoubtedly poisoned, are propagated by swallowing the morbid material of the disease.

In regard to the propagation of cholera, the author says—

“The instances in which minute quantities of the ejections and de-

jections of cholera patients must be swallowed are sufficiently numerous to account for the spread of the disease; and on examination it is found to spread most where the facilities for this mode of communication are greatest. Nothing has been found to favour the extension of cholera more than want of personal cleanliness, whether arising from habit or scarcity of water, although the circumstance till lately remained unexplained. The bed linen nearly always becomes wetted by the cholera evacuations, and as these are devoid of the usual colour and odour, the hands of persons waiting on the patient become soiled without their knowing it; and unless these persons are scrupulously cleanly in their habits, and wash their hands before taking food, they must accidentally swallow some of the excretion, and leave some on the food they handle or prepare, which has to be eaten by the rest of the family, who, amongst the working classes, often have to take their meals in the sick room: hence the thousands of instances in which, amongst this class of the population, a case of cholera in one member of the family is followed by other cases; whilst medical men and others, who merely visit the patients, generally escape. The *post mortem* inspection of the bodies of cholera patients has hardly ever been followed by the disease, that I am aware, this being a duty that is necessarily followed by careful washing of the hands; and it is not the habit of medical men to be taking food on such an occasion. On the other hand, the duties performed about the body, such as laying it out, when done by women of the working class, who make the occasion one of eating and drinking, are often followed by an attack of cholera; and persons who merely attend the funeral, and have no connexion with the body, frequently contract the disease, in consequence, apparently, of partaking of food which has been prepared or handled by those having duties about the cholera patient, or his linen and bedding."

After some further remarks, the following passage occurs:

"The mining population of Great Britain have suffered more from cholera than persons in any other occupation,—a circumstance which I believe can only be explained by the mode of communication of the malady above pointed out. Pitmen are differently situated from every other class of workmen in many important particulars. There are no privies in the coal-pits, or, as I believe, in other mines. The workmen stay so long in the mines that they are obliged to take a supply of food with them, which they eat invariably with unwashed hands, and without knife and fork."

A letter is quoted respecting a coal-pit near Leeds, which is described as one huge privy, and the author continues—

"It is very evident that, when a pitman is attacked whilst at work, the disease has facilities for spreading among his fellow-labourers such as occur in no other occupation. That the men are occasionally attacked whilst at work I know, from having seen them brought up from some of the coal-pits in Northumberland, in the winter of 1831-2, after having had profuse discharges from the stomach and bowels, and when fast approaching to a state of collapse."

In addition to the above means of the communication of cholera, it is an important part of Dr. Snow's theory, that it may be also communicated through the medium of water, by the cholera evacuations

getting into pump-wells and other local supplies of water, owing to accidental communications between drains or cesspools and the wells, &c. And also by these evacuations flowing in the usual way down the sewers into the Thames, and other rivers, from which, in too many instances, the water supply of the population is taken. Dr. Snow derives the chief part of the evidence which he adduces in favour of his views from this part of the subject, which consequently occupies the greater part of his work.

He relates many instances, chiefly from the epidemic of 1849, in which sudden and severe outbreaks of cholera occurred amongst persons using the water of a ditch or pump-well, which was constantly polluted with excrementitious matters. The most striking feature of these outbreaks is, that the cases occurred nearly altogether, very soon after a single case happened amongst the persons whose evacuations contaminated the water. In a very severe outbreak of cholera, which took place in Wandsworth Road, London, in 1849, the water was not habitually polluted, but became so by the bursting and overflow of the house drains into the water tanks, during a thunder storm. The houses in which this catastrophe occurred were seventeen in number; they were semi-detached villas, and constituted the genteel suburban dwellings of a number of professional persons and tradespeople. The houses were drained and supplied with spring water on one plan. The water was conducted into a series of tanks placed underground at the back of each house, at the same level, and the water which overflowed ran into a drain which also received the house drains and the overflow from the cesspools; the contents of this drain flowed back into the tanks at the time of the thunderstorm. When the tanks were afterwards opened under the superintendence of the Commissioners of Sewers, the privy soil was found from six to nine inches deep in them. In order to explain how water can be used under these circumstances, it is necessary to state, that when privy soil is left at rest in water it settles principally to the bottom, leaving the water above not much altered in physical appearance. At the time the overflow of the drain took place, a lady in one of the houses had been suffering two days from the premonitory symptoms of cholera, of which she died two days afterwards, and two days subsequently to her death the great outbreak took place. About half the persons living in the seventeen houses were attacked, and about half of those who were attacked, died. The cholera extended to all the houses in which the water was polluted, except to one or two that were empty, or nearly so, and it did not extend to any others. There were plenty of houses both in a continuous line with these, and before and behind them, but they were free from cholera during this outbreak.

Dr. Snow gives a very full account of the fatal and extensive outbreak of cholera which occurred last autumn in Broad-street, Golden-square, and its neighbourhood, and he has illustrated this subject with a map, showing the number of fatal attacks and the situation of the houses in which they occurred. He says that, as soon as he became acquainted with the situation and extent of this irruption of cholera, he suspected some contamination of the water of the much-frequented

street-pump in Broad-street, and that further inquiry showed him that there was no other circumstance or agent common to the circumscribed locality in which this sudden increase of cholera occurred, and not extending beyond it, except the water of this pump. He, however, asked permission to take a list at the General Register Office of the deaths which were registered during the first two days of the outbreak, and made a personal inquiry respecting them of which the following is the result :

“ On proceeding to the spot, I found that nearly all the deaths had taken place within a short distance of the pump. There were only 10 deaths in houses situated decidedly nearer to another street pump. In 5 of these cases the families of the deceased persons informed me that they always sent to the pump in Broad-street, as they preferred the water to that of the pump which was nearer. In 3 other cases, the deceased were children who went to school near the pump in Broad-street. Two of them were known to drink the water ; and the parents of the third think it probable that it did so. The other two deaths, beyond the district which this pump supplies, represent only the amount of mortality from cholera that was occurring before the irruption took place.

“ With regard to the 73 deaths occurring in the locality belonging to the pump, there were 61 instances in which I was informed that the deceased persons used to drink the pump-water from Broad-street, either constantly or occasionally. In 6 instances I could get no information, owing to the death or departure of every one connected with the deceased individuals ; and in 3 cases I was informed that the deceased persons did not drink the pump-water before their illness.

“ The result of the inquiry then was, that there had been no particular outbreak or increase of cholera in this part of London except among the persons who were in the habit of drinking the water of the above-mentioned pump-well.”

The above 83 deaths are only a part of those which took place even on the first two days, for the registration takes place generally a day or two after the death. The whole number of deaths which have been recorded as connected with this outbreak was 614. Dr. Snow says that he was prevented from extending his inquiry to the whole of these cases on account of researches he was making elsewhere, but he considers the 83 first registered as offering a fair average. He, however, mentions the immunity of the workmen at a brewery in Broad-street, which was surrounded with houses and workshops in which fatal attacks occurred. The brewer's men never went or sent to the pump. The inmates of the workhouse, situated in the district of the outbreak, enjoyed also a nearly similar immunity, they having a pump of their own, in addition to the supply of the water company, and never sending to the street-pump. Amongst other instances which the author mentions of the influence of the water of this pump is the remarkable one of a lady who formerly resided in Broad-street, but lived latterly at the West-end, Hampstead, and had the water from this pump taken out of town to her every day. She and a niece, who was visiting her were fatally attacked with cholera at the time of the outbreak in Broad-street. The only other person who drank of this water at the West-end was a servant, and she had diarrhœa. There

were no other cases of cholera at that time in the neighbourhood where these occurred. Dr. Snow detected organic impurities in the water of the pump-well in Broad-street, but he could not tell at the time how they reached the well. The parish authorities have, however, since determined this point by excavations which they ordered. The contents of a cesspool, situated only three feet from the well, were found to pass through its decayed wall and percolate through the intervening ground, and then run through the open brickwork of the side of the well. It is worthy of notice that a child was suffering with symptoms of cholera in the house to which the cesspool belongs for three days before the great outbreak, and that its dejections were emptied into the cesspool.

The author enters at some length on a statistical inquiry into various epidemics of cholera with which London has been visited, in order to show the connexion between the mortality of this disease and the water supply of the various metropolitan districts. The most important part of this inquiry is a personal investigation which he undertook in the summer of 1854, in the south districts of London. The south districts of London are all, with the exception of Greenwich and Lewisham, supplied with water by two companies, the Lambeth Company and the Southwark and Vauxhall Company. In 1849 the Lambeth Company obtained their supply near the Hungerford Suspension Bridge, and the other Company at Battersea-fields, as at present. The water of both Companies contained the sewage of London as it was washed too and fro with the tide, and the whole of the districts which they supplied suffered severely from cholera in that year. In 1852 the Lambeth Company changed their source of supply to Thames Ditton, a part of the river beyond the influence of the tide, and out of reach of the sewage of London. In the epidemic of the latter part of 1853, and in that of 1854, the districts to which this new water supply extended suffered a much less mortality from cholera than in the epidemic of 1845-49; but as the supply of the Lambeth Company is intermixed with that of the Southwark and Vauxhall Company, it was impossible to ascertain the precise effect of the new water supply on the mortality without a personal inquiry. On this point the author says:

“In the sub-districts enumerated in the above table as being supplied by both companies, the mixing of the supply is of the most intimate kind. The pipes of each company go down all the streets, and into nearly all the courts and alleys. A few houses are supplied by one company and a few by the other, according to the decision of the owner or occupier at that time when the water companies were in active competition. In many cases a single house has a supply different from that on either side. Each company supplies both rich and poor, both large houses and small; there is no difference either in the condition or occupation of the persons receiving the water of the different companies. Now it must be evident that, if the diminution of cholera, in the districts partly supplied with the improved water, depended on this supply, the houses receiving it would be the houses enjoying the whole benefit of the diminution of the malady, whilst the houses supplied with the water from Battersea-fields would suffer the same mortality as they

would if the improved supply did not exist at all. As there is no difference whatever, either in the houses or the people receiving the supply of the two water companies, or in any of the physical conditions with which they are surrounded, it is obvious that no experiment could have been devised which would more thoroughly test the effect of water supply on the progress of cholera than this, which circumstances placed ready made before the observer.

"The experiment, too, was on the grandest scale. No fewer than 300,000 people of both sexes, of every age and occupation, and of every rank and station, from gentlefolks down to the very poor, were divided into two groups without their choice, and, in most cases, without their knowledge; one group being supplied with water containing the sewage of London, and, amongst it, whatever might have come from the cholera patients; the other group having water quite free from such impurity."

Dr. Snow applied at the Registrar-General's office for a list of the deaths from cholera which were registered during the first seven weeks of the epidemic of 1854, in all the districts to which the supply of the two water companies extends, and he went to the houses in which the attacks took place, in order to ascertain the water supply. In stating the results, he has divided the seven weeks into two periods, the first of four weeks, and the second of three weeks. In the first period there were 334 deaths from cholera in these four weeks in the districts to which the water supply of the Southwark and Vauxhall and the Lambeth Company extends. Of these it was ascertained that, in 286 cases the houses where the fatal attack of cholera took place, were supplied with water by the Southwark and Vauxhall Company, and in only 14 cases was the house supplied with the Lambeth Company's water; in 22 cases the water was obtained by dipping a pail directly into the Thames; in 4 instances it was obtained from pump-wells; in 4 instances from ditches; and in 4 cases the source of supply was not ascertained, owing to the person being taken ill whilst travelling, or from some similar cause.

When the number of houses supplied by each company respectively is taken into account, namely, 40,046 by the Southwark and Vauxhall Company, and 26,107 by the Lambeth Company, it is found that the cholera was 14 times as fatal amongst persons having the impure water of the former company as amongst those having the purer water from Thames Ditton. In the next period of three weeks, 1180 deaths from cholera were registered in the districts supplied by the two companies; of these fatal attacks, 977 took place in houses supplied with the water of the Southwark and Vauxhall Company, and 84 in houses supplied with the improved water of the Lambeth Company; in the remaining cases the water was obtained from wells and other sources. When the number of houses supplied by each company is taken into account as before, it is found that the cholera was 8 times as fatal in the houses supplied with water from the Thames at Battersea-fields, as in those supplied with the more pure water from Thames Ditton. During the remainder of the epidemic of 1854, the Registrar-General caused an inquiry to be made through the District Registrar respecting the water supply of the houses in which fatal

attacks of cholera took place in the districts supplied by the above two companies; and the result of this inquiry was, that, in the middle and latter part of the epidemic succeeding the first seven weeks, the mortality of cholera was more than 5 times as great in the houses supplied with the impure water of the Southwark and Vauxhall Company as in those supplied with the purer water of the Lambeth Company.

The mortality in the houses supplied by the Lambeth Company kept increasing during the progress of the epidemic just as it increased in the districts in the north of the Thames, where it was not influenced by any fault in the water supply, yet the population receiving the improved water supply of the above company, although chiefly living at the lowest level of any part of the metropolis, and being intimately mixed up with a population suffering a very high rate of mortality from this disease, enjoyed throughout the epidemic an immunity from cholera greater than that of the population of London on the north of the Thames.

Dr. Snow enters at some length into the water supply of many of the chief towns of the kingdom, to show its connexion with the mortality of cholera in the various epidemics of that disease, but we have not space to follow him in this part of his inquiry. He says, that in examining the effect of polluted water as a medium of the cholera poison, it is necessary to bear constantly in mind the more direct way in which the poison is also swallowed, as he explains in a passage we quoted near the beginning of this notice. On this account he says that the same polluted water causes a higher mortality in dwellings crowded with the dirty and poor than in those of cleanly, well-to-do people, owing to the disease spreading also from person to person in the first kind of dwellings, and not in the latter.

The author gives a number of directions for avoiding and suppressing cholera. They consist chiefly in the observance of extreme cleanliness about the sick, and in avoiding the use of water contaminated with excrementitious matters. The general water supply of London is in progress of improvement, owing to Acts of Parliament which have been passed since the first edition of Dr. Snow's book appeared, but the pump-wells are generally placed in most extraordinary proximity with drains and cesspools, and we consider that, with the exception of artesian wells and a few others, the pumps in large towns cannot be looked on with too much suspicion.

We leave our readers to form their own conclusions from the above abstract of Dr. Snow's opinions and researches. Whatever their conclusions may be we think they will agree with us that the subject is one of very great importance, and well deserving of further investigation.

The Diagnosis of Diseases of the Brain, Spinal Cord, Nerves, and their appendages. By J. RUSSELL REYNOLDS, M.D., London University Medical Scholar, Assistant-Physician to the Hospital for Sick Children. 8vo. Churchill, 1855.

The object of this book is fully expressed in its title. The manner in which this object is carried out may be characterised as extremely *systematic*. The several diseases are carefully dissected after a prescribed order, and their several fragments are arranged in lettered paragraphs, so that on turning over the pages the same letter or figure always indicates the corresponding subject. This plan will no doubt be pleasing to a great number of persons, but there are others who form their ideas best from strong and vivid pictures of the undissected disease, and who get confused when the several detached parts are put before them, however orderly the artificial arrangement may be, and these persons may not be so well satisfied with the plan of the work as the others. Be the merits of the plan what they may, however, there is no doubt that much care and labour has been expended in elucidating what all must admit to be a very difficult subject, and that no one can rise from the perusal of the work without having gained much valuable information.

After stating the objects of diagnosis and its limits, and considering the elements for diagnosis, Dr. Reynolds proceeds to give the classification adopted. He adduces good reasons for not framing a classification either upon anatomical or physiological grounds, and decides in favour of a clinical classification.

“The object of this treatise being neither pathology nor anatomy, but the discrimination when possible of their point of contact, and the recognition of its impossibility when such impossibility exists, a classification, based upon clinical grounds, is adopted, as it appears to my own mind to be the most consistent with the two classes of terms to be brought together, and because, farther, it is the most readily applicable, avoiding one of the difficulties which beset the employment of works on diagnosis, that of having to find out what the disease is before being able to turn to the proper part of a book for information on the subject.

“The basis of classification which I am about to propose and adopt, is formed by the three objects of diagnosis;—locality, nature, and lesion. In some cases the primary lines of division are in accordance with one, and in some cases with another, the object being to form clinical groups which may be readily recognized, rather than those which shall be open to no criticism on the score of system. Thus, although the distinction of intrinsic and extrinsic diseases is one of primary importance, and so much so that I have given separate consideration to it in an early chapter, it is left to form a tertiary basis of division in other instances, as for example, in the apoplectic class. The general lines of arrangement are the following: groups are formed by,—first, the locality or organ affected; secondly, the nature of its affection; and thirdly, the anatomical conditions which underlie them. In this place only the headings, or those large groups, are mentioned whose consideration will form the topics of distinct chapters. At the commencement of each of the

latter, a fuller list is given of the various anatomical conditions which may occasion the phenomena of the group.

“I. Diseases of the encephalon.

A. Acute.

1. Febrile, or inflammatory. Chap. VI.
2. Non-febrile.
 - a. Apoplectic diseases. Chap. VII.
 - b. Diseases marked by delirium. Chap. VIII.
 - c. Convulsive diseases. Chap. IX.
 - d. Diseases marked by pain. Chap. X.

B. Chronic diseases.

1. Marked by increased activity. Chap. XII.
 - a. Ideation, its characteristic being hallucination, &c.
 - b. Sensation, ,, ,, pain.
 - c. Motility, ,, ,, spasm.
2. Marked by diminished activity. Chap. XIII.
3. Marked by the combination of increased and diminished activity. Chap. XIV.

“II. Diseases of the spinal column and cord.

A. Acute. Chap. XVII.

B. Chronic. Chap. XVIII.

“III. Diseases of the nerves. Chap. XX.

A. Structural, or organic.

1. Neuritis.
2. Tumour.

B. Functional, or dynamic.

1. Neuralgia, and spasm.
2. Anæsthesia, and paralysis.”

It is impossible, as well as unnecessary, to consider in order the whole contents of this book, and all that we can propose to do is, to give such references as shall illustrate the manner and opinions of the author. A very favorable and instructive specimen of the manner in which a *general* question is treated, may be found in the remarks upon the way in which affections of the brain, spinal cord, and nerves are separated clinically.

“The general grounds upon which diagnosis of disease in other organs is based, are partially applicable to the group of nervous derangements, and partially inapplicable. Modifications in the processes of thought, and in the conditions of perception, are referred at once to direct or indirect interference with the functions of the brain; but the absence of such phenomena (when motor paralysis exists, for instance) does not exclude the brain from the attribution of disease. Thus, while on the one hand the actual disturbance of its special function indicates that a certain portion of the nervous system is the locality of disease; on the other hand, the absence of such special derangement by no means proves the reverse. As it is well understood that, in the case of motility in relation to volition, it is necessary, for the passing over of a volitional

impulse to the contracting muscle, that each portion of the nervous system engaged in this transference should be intact, so it is equally obvious that the two extremes (volition and motion) may be severed by lesion of any part (*i. e.*, either nerve-trunk, cord, or brain) which lies between them; and thus the simple fact of paralysis (to volition) gives no indication with regard to the locality of disease. The same is true with regard to sensation as a whole.

“Thus, one common ground of diagnosis (in respect of other diseases) is removed to a certain extent, since the complete performance of many important nervous functions is the combined product of its three great divisions. These special considerations are, however, of some value; and, taken in conjunction with the distribution and combination of symptoms, enable us generally to arrive at a diagnosis. Attention is directed to—

First. The special functions involved. We infer—

A. That the brain is the seat of disease when there is a positive change in the processes of volition, ideation, emotion, and the perception of sensorial impressions—*i. e.*, when that class of functions is disturbed whose special consideration formed Section I., A., 1, 2, 3, in the chapter on ‘Elements for Diagnosis,’ and when certain extrinsic symptoms are referred locally to the head; and when emotion yet preserves its relation to motility.

“B. That the spinal cord is the organ affected when, no signs of brain disease being present, perception, volition (phenomenally sensation, and voluntary movement), and often emotion are cut off more or less completely from some portion or portions of the body: these portions yet preserving their motile relationship to the cord, as exhibited by reflex and tonic spasm, by associated movements, and electric irritability; and when the extrinsic symptoms are referred locally to the spinal region. Further, the occurrence of spasm and convulsion, especially of tonic character, and of all abnormal involuntary movements in excess, indicates a probability of spinal rather than of cerebral injury.

“C. That the nerve-trunks are originally affected when there are signs of local injury in their course, when the special functions of particular nerves are alone involved; the brain and spinal cord presenting no positive change in their actions; and if motility and sensibility are lost, when the loss is complete, no reflex actions, and no electric irritability remaining.

“Although considerations of this kind may, under certain circumstances, lead to a diagnosis of locality, there is always some uncertainty from the unsatisfactory manner in which negative evidence is interpreted. Disease of the brain (for instance) need not affect volition or ideation, and disease of the cord may present the features of ‘nervous’ disease. There are, further, many complicated cases in which positive evidences of disease in the medulla spinalis are found in conjunction with the negative signs of cerebral affection; for example, hemiplegia with exalted reflex activity: and there are two modes in which this relation may be explained—(*a*) that the simple fact of removed or diminished cerebral power exaggerates, *per se*, the activity of the spinal cord; and (*b*) that the reflex phenomena are due to a morbid spinal condition, not necessarily associated with the cerebral, but in particular cases

developed either cutaneously or subsequently to the lesion of the brain. The first explanation rests upon, and is at the same time taken to prove the supposition of an antagonism between these two nervous centres: an antagonism which, if not entirely imaginary, is at all events very incorrectly stated: and the second mode of explanation appears therefore to be that which we are alone warranted in adopting. We shall have, then, to consider some diseases which have been referred exclusively to the brain, as dependent upon some primary lesion of that centre, plus an induced, it may be dynamic, condition of the cord.

“We come now to consider the second mode by which this diagnosis (of brain, spinal cord, and nerves from each other) may be established.

“Secondly. The distribution of symptoms (their locality, extent, and limits). The assistance derived from these considerations is based upon the tendency of our mind, a tendency of which experience confirms the truthfulness and utility, to refer a similar modification of dissimilar organs, not to the simultaneous change of both organs, but to a change in something which is common to the two. And again, we are disposed to assign the smallest possible change which can produce the effect as the sufficient cause of the symptoms presented. Thus, in a case of perfect hemiplegia, we, in accordance with the first tendency or law, refer the symptoms to some part of the organism common to all the nerves of sensation and motion on one side (the cerebrum), rather than to the nerves and muscles themselves; and in a case of local paralysis, in accordance with the second disposition or rule, we refer the symptoms to some lesion of the nearest nerve-trunk which is common to all the muscles involved.

“By careful examination the exact seat of injury may sometimes be discovered, especially in spinal diseases, although these limitations are always liable to error. However, we conclude—

“A. That the brain is the seat of lesion when several of the special senses are simultaneously affected; when the muscles and general sensory nerves are implicated longitudinally and unilaterally (hemiplegia); when muscles situated so high as those of the face and tongue are involved, and the orbicularis of the eyelids does not share in their affection. In those rare cases of bilateral (or transverse) paralysis (paraplegia) resulting from some cerebral change, the symptoms at some period of the case have generally referred to the head (by their special character), so that by a combination of the two classes of observations, the diagnosis may be almost universally established.

“B. That the spinal cord is the organ affected when the symptoms of motor and sensory character are distributed transversely or bilaterally, inducing paraplegia or transverse spasm. The precise locality may be estimated sometimes from the anatomy of the spinal nerves. If the lesion or disease is high, speech, deglutition, respiration, &c., are impaired. There is often erection of the penis, the retention or involuntary discharge of fæces and urine according to the conditions already described.

“C. That the nerve-trunks are the seat of lesion when the symptoms are referable to an isolated muscle or group of muscles, or to a small portion of the sensory surface. When paralysis is the symptom, the

irritability of the muscles to electric stimulation is quickly lost; and the symptoms show no disposition to wander from the special localities affected.

“The means of distinction may be resumed thus :

“1. When perception, ideation, volition, and special sensation are affected; and motor and general sensory changes exhibit a unilateral distribution, the brain is commonly the seat of disease.

“2. When the mental functions are unchanged, and motility and general sensibility are affected bilaterally, we infer the spinal cord to be the locality of lesion.

“3. When the relations between motility, volition, and reflexion are lost, the mental functions being unchanged, and when the motor and sensory disturbances are purely local, we refer the disease to some of the nervous trunks. In each case the extrinsic symptoms are referable to the special locality or region affected.”

As an illustration of the manner in which a *special* question is treated, we may subjoin the remarks upon the differential diagnosis of idiopathic meningitis and the cerebro-meningeal complications of fever.

“No greater difficulty of diagnosis can occur than that which is sometimes presented by a case in which the question arises, whether the symptoms are due to meningitis with fever of a low (or typhoid) type, or to typhoid fever with cerebro-meningeal complication. The question is not so much whether actual inflammation is or is not present (for it may exist in the latter); but whether that inflammation (or cerebro-meningeal condition) is primary or secondary; in other words, whether the fever is the result, or secondary product of the inflammation, or whether the inflammation is one of the many secondary phenomena of the fever. (The term ‘fever’ being here employed to denote the general organic condition induced by a specific morbid poison.)

“The diagnosis can only be established by a consideration of each class of symptoms, in their absolute and relative development. In the following paragraphs the contrast will be drawn between typhoid and typhus fevers on the one hand, and idiopathic meningitis on the other.

“A. Prodromata, or those symptoms which occur prior to the appearance of marked cerebral symptoms.

“1. Extrinsic. These are rigors followed by febrile reaction, its oppressive headache, anorexia, and general (systemic) disturbance; often by vomiting and diarrhoea (in typhoid). The pulse is frequent and feeble, and the expression of countenance dull and heavy.

“2. Intrinsic. Mental confusion or incapacity with sensorial disturbances, such as tinnitus aurium, muscæ, &c.; and general restlessness, with occasional twitchings of muscles.

“It is to be borne in mind that these symptoms, so common in continued fever, rarely exist to such a marked degree in meningitis, without being accompanied by others of much greater intensity and more serious character.

“B. Developed symptoms. In the majority of cases the extrinsic signs of general disturbance are sufficient to account for all the intrinsic phenomena, the latter bearing a direct proportion to the former; but

in others doubt arises, and in order to remove it, we have to consider seriatim—

“1. Extrinsic. There may be the special signs of typhoid, or typhus, viz., the peculiar exanthem of each (rose-coloured, lenticular spots, or the mulberry rash). In either case these are demonstrative evidence of a specific disease. But they may be only doubtfully developed, and we have to carry the investigation further. Epistaxis, and enlargement of the spleen, are common. The pulse is frequent and often irregular; but it does not present the notable variations observed in meningitis. The expression of face is peculiar, and its colour ‘muddy-looking’ in typhus. (See intrinsic symptoms, mental). In typhoid there is abdominal pain, tenderness of the iliac fossæ, gurgling in the right, and diarrhœa, with evacuations of peculiar character: none of which is constantly or equally marked in meningitis; whereas there is not the frequent, abundant, and persistent vomiting of the latter. In typhus, there is a degree of general prostration almost unknown in other diseases. Complications of bronchitis and pneumonia occur much more frequently than in cerebral affections. The conjunctivæ may be injected, but not to the degree observed in meningitis.

“2. Intrinsic symptoms (or derangements of nervous functions).

“a. Mental. The expression of countenance may be natural in typhoid; in no one of forty-three cases of typhus was it natural throughout (Jenner).* In typhoid, as a rule, it is oppressed and heavy; in typhus the oppression is still more marked. Dr. Jenner describes it as that of ‘a drunken man just disturbed from sleep.’ This is a notable distinction from meningitis; but in rare cases of typhoid the expression is highly vivacious. Delirium is present in a large majority of cases of fever; it may commence on the third day, but is more common in the second week. In general, it is of mild inoffensive character, and is preceded by confusion of thought. The dulness of delirium is most marked in typhus; and although, in exceptional instances, it may be vivacious in typhoid, it rarely, if ever, assumes the violent, fierce character found in meningitis. In continued fever, delirium is in proportion to the febrile state; in cerebral affections, it is more highly marked than the fever will account for. Somnolence is frequent, and often profound, but its approach is more gradual than in meningitis. Thus typhoid, much more commonly than typhus, is the source of difficulty; but its extrinsic characters are more distinctive.

“b. Sensorial. Hyperæsthesiæ, or more properly dysæsthesiæ, are extremely rare. Pain in the head is rarely absent; but it is of much less intensity than in inflammation; it is rarely within the patient’s powers of description (either from his confused intellectual condition, or the diffused extent and unmarked character of the pain itself); and it almost invariably disappears when delirium sets in. These characteristics differ widely from those of inflammation, the patient with meningitis constantly screaming with pain in his wildest delirium. The sensorial changes which occur in fever are commonly those of deficiency, such as deafness, and general unimpressibility.

“c. Motorial. Spasmodic twitchings occur in the muscles of the typhoid patient: general convulsions sometimes occur in typhus. Re-

* Typhus, Typhoid, and Relapsing Fevers, p. 20, and seq.

tention of urine, and its involuntary discharge when present in the latter, are observed at an earlier period than when resulting from primary cerebral affections.

"If all these differences are duly considered, there can be little doubt, except in rare cases; and these rarer cases are those in which, most probably, in addition to the effect of a special poison circulating in the blood of the nervous centres, there is more or less variation from the healthy standard in respect of its physical conditions of supply; viz., congestion of the cerebrum, its meninges, or both; and of this congestion, the symptoms referred to are the vital (dynamic) phenomena.

"The important object for diagnosis is, not the precise anatomical condition of the encephalon (whether there is inflammation, or congestion), but whether the cerebral state (whatever it may be), is idiopathic, and is to be treated as such; or whether it is merely one of many results produced by a general, systemic disease: and this object we may attain, in the greater number of cases, by the indications already pointed out."

Dr. Reynolds dedicates his work to Dr. Marshall Hall, but we are glad to see that this does not prevent him from giving an opinion of his own. He places, for instance, epilepsy, catalepsy, hysteria, chorea, and paralysis agitans among the chronic diseases of the brain, and not among chronic diseases of the spinal cord.

"We cannot but admit," he says, "that the precise locality of their cause is uncertain; although it appears probable that epilepsy and catalepsy are closely related to functional derangement of the spinal cord, and that hysteria and chorea have their starting place in some morbid condition of the emotional and sensori-motor centres. But, how far diseases of the blood are connected with any or all of these, we cannot at present say; the symptoms of epilepsy, catalepsy, hysteria, &c., are, many of them, essentially modifications of the cerebral functions; and the lesions which are discovered, post mortem in the former, are most commonly present in the encephalon. Deficiency, or a perverted condition of the will in many of its relationships, are as constant phenomena of these diseases as are the signs of spinal activity: the mind, in its relations to motility, and sensation, is often more deeply affected than any other separable vital element; and, until it can be shown that all the symptoms of these various and ever-varying maladies are clearly referable to particular derangements of definite nervous centres, it appears to me most judicious to leave the question so far open as it is left by the present chapter, and the subsequent position of those diseases—*i. e.*, to group them with clinically-allied affections, involving (as they most certainly do to a notable extent) the proper functions of the brain. It has been necessary to do this with regard to acute convulsive affections; and the reasons for adopting this mode of classification are the same in each instance."

Nor does Dr. Reynolds appear to attach the same importance as Dr. Hall to spasm in the muscle of the neck and larynx, in the causation of epilepsy.

"It has not yet been shown," he says, "with what relative frequency contractions take place in it, and in other parts of the body; but from my own examination (of eighty cases of epileptics, for example), I can-

not find that the neck is more commonly affected than other parts of the body. It is very difficult to arrive at a positive conclusion on the subject, since so many of these phenomena pass unnoticed by the patient, and we are unable to assert what occurs during the intervals of observation."

Again :

"It is quite certain that the trachelismus occurs in some epileptics, and that it may (by impeding the return of blood from the head) induce temporary congestion; but I have very rarely found that epileptics suffer from trachelismus during the intervals of their seizures; and although it is sometimes highly marked at the onset of the attacks (when spasm is universally present), I have observed many cases in which the tracheal muscles were quite flaccid, notwithstanding the darkness of face and leaden hue of the body generally."

With these remarks we leave the book to tell its own story, only adding the hope that it may lack no opportunity for so doing.

The treatment of Chorea by Blisters. By M. DELAHARPE, of Lausanne. (Gaz. Hebd. de Méd. et Chir., 19th Jan., 1855.)

This idea is not new. On the contrary, it occurred to M. Max. Simon several years ago, and was put in practice by him, and subsequently by M. Vanderlebens, of Stromberg, and M. Jenni, of Euneda, in Switzerland. Indeed, in the paper under consideration, M. Delaharpe relates cases by the last-named two observers.

M. Delaharpe does not enter into any theoretical speculations upon the mode in which the blister operates, but simply relates his cases, and leaves them to tell their own tale. His plan is to apply the first blister to the leg of the side which is most affected—one side is almost always more affected than the other. The blister is applied immediately below the tuberosity of the fibula, as for sciatica, and kept on until vesication is complete. Then the cuticle is removed, and the sore dressed in the ordinary way. The first dressing is generally attended with some aggravation of the symptoms; but this is only transitory, and on the next day, or the day following, the symptoms are much alleviated, not only in the blistered limb, but also in the others. When the first blistered surface ceases to suppurate, a second blister is applied on the same side. The effects of this blister are more marked than those of the first, and the choreic symptoms very rarely last more than two days from the time of this second application, and six or seven days from the commencement of the treatment. If, however, the chorea is obstinate, a third blister is placed behind the neck, where, indeed, it is placed at the beginning, if the head is much agitated. The position of the blister, indeed, must be determined by the symptoms of the case. If both sides are affected uniformly, first one side must be blistered, and then the other. If the arm is chiefly affected, it must be blistered, the point chosen being below the insertion of the deltoid.

Though M. Delaharpe considers blisters as by far the most efficacious part of the treatment, he does not depend upon them exclusively. On the contrary, he removes his patients from all sources of

moral excitement, insists upon the discontinuance of every kind of study, and gives cod-liver oil, steel, quinine, and other appropriate tonics for some time after the movements are at an end. He completes the cure by these means.

Seven cases are cited out of several which have occurred in the author's practice, and of these we take five, the other two not being very much to the point.

CASE 1.—A little child, of good constitution, very intelligent, and four years of age, was admitted into the hospital at Lausanne, on the 30th April, 1853, suffering from slight general chorea. The symptoms had originated in a fright received about three weeks before. The left side was most affected. Walking was possible, but not speech. Two blisters applied successively, one to the left leg, the other to the left arm, completed the cure, and she left the hospital quite well on the 16th of May.

CASE 2.—A thin girl, very tall for her age (13 years), was admitted into the hospital on the 11th April, 1853. She had suffered from slight general chorea for forty days. The appetite was good, and the gait and speech unaffected. The muscles of the face and arms were the parts particularly affected. The symptoms ceased entirely under the application of two blisters to the arms. She left the hospital on the 9th of May, quite well, having been kept there longer than necessary to secure the advantages of proper food and shelter. The cause of the malady could not be ascertained.

CASE 3.—A girl, *æt.* 11, pale, tall, and thin, of a lymphatic temperament, who had suffered from slight general chorea for some months. The causes could not be ascertained. The left side and the upper limbs were the parts principally affected. The appetite was good, the speech free, the gait natural. The symptoms vanished under the application of two blisters, one to the left thigh, the other to the right arm. She entered the hospital on the 10th of April, and left it on the 26th of May, her stay having been prolonged in order to benefit her general health.

CASE 4.—A watchmaker, *æt.* 18, was admitted into the hospital on the 30th August, 1854. He was seized with general muscular agitation about two months ago, but this had been somewhat relieved by the use of assa-fœtida and valerian. The whole body is agitated, but the right arm and trunk more than the rest. Onanism and sedentary habits appear to have been the inducing causes. On admission, good diet was ordered, and a blister placed on the right arm, when immediately the agitation diminished. A second blister placed on the left arm, and a third on the right, produced no sensible effect. The movements continued to be relieved, but they were still considerable, particularly when he attempted to stand. On the 14th of September, not being quite so well, the blisters were abandoned, and oxide of zinc given instead. This was done until the 21st, but without any advantageous result. On the 22d, the blisters were resumed, and three applied, one after the other, but without the least benefit. On the 28th, indeed, his state was certainly worse than when admitted into the hospital. On this day, the oxide of zinc was resumed, with the addition of camphor, this addition being indicated by one of the supposed causes of the malady. Three days afterwards, there was a sensible improvement. On the 3d of October, the oxide of zinc was discontinued, and the camphor given by itself in larger doses. On the 8th, the agitation has ceased, he makes but few grimaces, and the speech is steady. On the 11th, the choreic symptoms have disappeared.

CASE 5.—A spare, irritable girl, *æt.* 13, was admitted into the hospital on the 11th of June, affected with spasmodic movements of both feet, especially

while lying awake in bed. She had been in the hospital about three years previously for epilepsy (?) but she had no attacks during the time she remained a patient, and has had none since. The mother reports that the girl was bit with a dog, and that the movements dated from this time (no time is given). At first they came on every eight days, or thereabouts, but lately they had increased in frequency. Now they are brought on by the least contradiction, and the patient throws herself on the ground, and kicks her legs violently about. At these times the movements are not convulsive, and there is no loss of consciousness. When in bed there is a rapid involuntary movement, first in one leg, and then in the other, which lasts from fifteen to twenty minutes, and ceases when she falls asleep. If taken up, the feet fidget about excessively, but the movement does not prevent her from standing. On the 2d of June, these symptoms were varied by two brisk summersaults. M. Delaharpe says that these symptoms ceased under the application of two blisters to the neck, combined with change of circumstance.

These cases are, of course, not very conclusive of themselves, but, taken in connexion with the cases already recorded by MM. Max. Simon, Vanderlebens, and Jenni, they seem to show that blisters will be an important agent of cure in chorea. Nor is it difficult to understand why this should be the case, if, as there is reason to believe, the blisters do good by the inflammatory excitement which they produce. Choreia, and several other forms of convulsive disease, are incompatible with this kind of excitement. Choreia is often, if not always, suspended for the time by the development of one of the exanthemata. Habitual epilepsy is often suspended during the continuance of traumatic or idiopathic inflammation. And, certainly, whooping-cough loses its spasmodic character if it become complicated with traumatic or idiopathic inflammation. There are, indeed, many facts which show the utter incompatibility of convulsion and inflammation or true fever; and this being the case, it is easy to believe that blisters may do good service in the treatment of chorea, and not in chorea merely, but in all affections allied to it. At any rate, the facts cited are valuable as facts.

On Rabies and Hydrophobia. By T. LINDLEY KEMP, M.D. ('Edinburgh Medical and Surgical Journal,' Jan. 1855.)

Materials towards the formation of a better knowledge of Hydrophobia. By JOHN N. RADCLIFFE, Esq. ('Lancet,' 10th February, and 10th March, 1855.)

Case of Idiopathic Hydrophobia. By M. ELY. ('Gazette des Hôpitaux,' 30th September, 1854.)

There has been for some time growing doubts as to the correctness of the generally received opinions respecting hydrophobia, and it has been asked more than once whether this disease is often caused by the bite of a rabid animal. These doubts, however, may now be set at rest, if the evidence which is here before us is freely considered. Indeed, it is not saying too much to affirm that Dr. Kemp has satisfactorily proved that hydrophobia is *seldom if ever* caused in this way.

Mr. Radcliffe's papers are incomplete, the writer having had to leave the desk to attend to more serious matters before the walls of Sebastopol, but we know that their object was similar if not identical to that of the gentleman already mentioned. His evidence, however, is different, as we shall have to show on another occasion. M. Ely's case is valuable as a fact, where facts of the kind are but scantily scattered.

Dr. Kemp's paper is one of no ordinary value. It begins with an examination of rabies, or "lyssa" as it was anciently called. This canine affection is marked by delirium, the dog snapping at himself or other dogs, as it is the habit of delirious dogs to do. The ancients believed that this delirious disease could be communicated from one dog to another by a bite, but, what is very strange, they did not believe that it could be communicated by the dog *to man* in this way. "Dogs," wrote Aristotle, "are subject to three disorders—the lyssa, the angina, and the podagra. The first of these maladies makes them mad, and all the animals that they bite become similarly affected, *man excepted*. The disease kills the dogs themselves, and every beast that is bit by a rabid animal, *man excepted*." The idea that this disease could be communicated to man, and that hydrophobia was the form it then took was the birth of a later time. It originated with Asclepiades—who was an *irregular* practitioner in those days, and whose opinion for other reasons was entitled to little weight—but once originated, it soon got firm hold of the public mind, and from that time to the present it has been the prevailing opinion.

During the last century, however, certain distinctions began to be drawn—distinctions between rabies and hydrophobia, and distinctions between those cases of hydrophobia which were caused by the bite of a rabid animal, and those which were not so caused. Sauvages, Linnæus, and Cullen, were among the first to make these distinctions.

During the last 50 years, moreover, the investigations of educated and scientific veterinarians, have more clearly defined the nature of rabies, and shown that this affection is in no way like the disease called hydrophobia in man, there being no dread of water in rabies, no difficulty of swallowing fluids, and often no increase or alteration in the secretion of saliva. Doubts even have arisen as to whether rabies was communicated by the bite of a rabid animal. Indeed, dogs have been repeatedly inoculated without rabies being the result, and, on the other hand, rabies has been found to originate in many instances without the agency of the bite, as in isolated kennels. The conclusion, indeed, at which many veterinarians may be said to have arrived is that rabies is an epizootic disease, appearing suddenly, prevailing over a wide extent of country at the same time, disappearing suddenly and remaining absent often for a long time, precisely like an ordinary epidemic. This epizootic is considered by Dr. Kemp to be analogous to influenza.

"Rabies, indeed, would appear, in its earlier or milder form, to be nearly identical with influenza among men,—an epidemic febrile disorder, attended with inflammation of the mucous membrane of the back of the mouth and adjacent parts. Subsequently, at least in the cases

that, from the severity of their symptoms, attract notice, and receive the name of rabies, there is violent delirium.

“Destructive to the feeble in health as the epidemic inflammation of the mucous membrane about the nose, fauces, and air passages, called influenza, is in the human species, it rarely or never is accompanied by violent delirium. On the contrary, fatal cases of it generally terminate, owing to the depressing effect of the disease upon the whole system, and not from any extension or transference of the inflammation to the brain. Is there, however, anything in the anatomy of the domesticated animals, particularly of dogs, to make us apprehend that an inflammation of the fauces, of some days’ continuance, would probably implicate the brain, and produce a disease of which delirium would be a probable symptom?”

“It certainly would appear that there is. In all these animals, and especially in the dog, the organs of smell are very highly developed, and the ethmoid bone is truly ‘cribriform,’ that is, sieve-like. And when we consider the extent and complexity of the nervous matter between the mucous membrane of the nose and fauces and the brain, we can easily suppose that inflammation of the former might spread to the latter, and in such a case delirium be a symptom; and that this transference should be most frequent in the dog, that domesticated animal in which the olfactory powers are most developed of all.

“So probable and so reasonable does this explanation and cause of the delirium of rabies seem, that, in the absence of contradictory facts, we might assume it as the true account of the pathology of the disease. But we have observations that confirm it, and we are informed that in every fatal case of rabies examined in the Edinburgh Veterinary College, whether in dogs, horses, or cattle (no sheep were examined), the brain behind the ethmoid bone was found with every mark of severe inflammation. Two morbid appearances are common to all cases of rabies, two only, but these two invariably; inflammation of the mucous membrane near the termination of the olfactory nerves, and inflammation of the brain in that portion of the brain nearest to where these nerves leave that organ.”

If then rabies is an epizootic catarrh, only accidentally inducing delirium, and ending fatally by extending to the brain, and if the saliva be unchanged, the analogy of epidemic diseases leads us to suppose that it is not contagious, and that the cause of hydrophobia must be sought elsewhere than in the virus of a rabid dog. But other evidence than this is contained in Dr. Kemp’s pages.

“That a special and peculiar disease in man should be induced by the bite of a rabid dog, is very improbable, owing to the fact that the bite of such an animal is seldom attended by any evil consequences. Hydrophobia is a very rare disease; rabies, during the prevalence of an epidemic, a very common one; and many persons who never suffer the slightest after inconvenience, are bitten by rabid dogs. Supposing, and the supposition is an exaggeration, that half the people so bitten run to a surgeon and have the wounded part cauterized or excised, we have the remaining half who take no such precaution. Of the number of these latter, some idea may be formed from the evidence of Mr. Youatt: ‘I was telling,’ he said, ‘the surgeon to whom I have just referred, that I had operated on nearly *four hundred* persons, and had been invariably in the habit of using the lunar caustic, and not one had died;’ his reply was, ‘What

is your *four hundred* compared to the number I have seen since I became connected with St. George's Hospital: myself and colleagues have operated on more than as many *thousands*, and to our knowledge not one has been lost.'

"This is the experience of one London hospital, and when the other hospitals, dispensaries, &c., are taken into account, the number of people bitten by dogs in London becomes very great. Assuming that nine tenths of those that chanced some years before the inquiry to be bitten were bitten by healthy dogs, although the animals were imagined to be rabid, still the number of people bitten by dogs really affected must have been very great. Admitting in the mean time that the excision or cauterization would protect those who were thus treated, the moiety who neglected this precaution must have been very considerable. And yet the hydrophobia in man during this period was scarcely known in the metropolis. All the medical men who were examined before the Committee of the House of Commons in 1830, many of whom were in extensive practice, and all of whom were zealous advocates for the disease, agree as to its extreme rarity. Dr. Todd Thompson stated that the first twenty years that he was in practice he never saw a single case, but that within the last ten he had seen *three* instances. Mr. Earle, in his twenty-five years' experience at St. Bartholomew's (where ten or twelve bitten people would be cauterized in a week), had seen 'living or dead' *nine* cases; Mr. Travers, notwithstanding his connexion with St. Thomas's, had witnessed only *ten* cases, and he stated that in twenty years only five cases arrived at St. George's and St. Thomas's; Dr. Babington did not count his, but said, 'it has not occurred to me to meet very lately with any case of the disease, and though I should be able to go a good way back in the enumeration of the cases I have seen they are not very numerous;' Sir Benjamin Brodie began his studies in 1801, and was always intimately connected with St. George's Hospital, 'where a great number of persons came who had been bitten by dogs supposed to be rabid,' and 'where a considerable number must have been so,' and yet from 1801 to 1816 'he never saw a case of canine madness (in man) nor was there any one admitted into St. George's Hospital. Since that period there had been several.' The other medical witnesses seem to have seen just one case a-piece.

"If these bites from rabid dogs occurred in thousands of cases, in a great many of which no application of caustic was made, and only some since so bitten had the hydrophobia, it would be difficult to connect the bite with the disease. In point of fact, however, in the vast majority of the cases bitten by dogs admittedly rabid, and in which no hydrophobia appeared, the caustic *could* not at all give protection against the disease if really infectious. The action of caustic upon a poisoned wound is simple; when that salt is applied to an animal texture, the nitric acid combines with the water that is essential to all animal structures, and the whole part touched is thereby destroyed and disorganized, including among the rest the organs of absorption. When these organs of absorption are so destroyed, if any poison be present it cannot be absorbed and taken into the system; and therefore, cannot produce any deleterious effect. But any poisonous fluid placed in an open wound would certainly be taken up, perhaps in three, certainly in twenty minutes; and cauteri-

zation, after that time has lapsed, can have no prophylactic effect. Very rarely, however, is the caustic applied so soon as this; and usually days, and often weeks, are allowed to elapse between the infliction of the bite and the application of the caustic. Indeed, any time within a fortnight seems to be held to be immaterial.

"The case, then, is this. In one large city (and other cities are quite analogous in this respect) thousands and tens of thousands are bit by rabid dogs; the immense majority of these forget all about it, and a very trifling number, not perhaps two dozen (and some of whom had probably never been bitten at all), after an interval of months, or even, according to some, after an interval of thirty years, take a disease. Is it likely—is it credible, that this disease arises from morbid matter proceeding from the mouth of a dog suffering from delirium consequent upon epidemic catarrh?"

It does not follow, however, that hydrophobia is never induced by the bite of a dog, in certain predisposed states of the constitution. On the contrary, it is probable that this may be one cause, for the allied affection, tetanus, is often produced by slight punctured wounds. In the majority of cases, however, hydrophobia can only be referred to the same kind of causes as hysteria, trance, ecstasy, and no physical and local injury whatever can be detected. Of these cases, there are several on record, but we will only cite two. One by Dr. Kemp, which also is one which was cited by Dr. Cullen for the same purpose now more than 100 years ago; the other is by M. Levy.

CASE.—A young gentleman was, while walking during a hot summer day, attacked by a pain in his stomach, doubtless of a nervous nature, for which blood was drawn. During the following winter he had some slight returns of the pain, and again lost blood, and his nervous mobility doubtless thereby augmented.

April 2d, 1732.—He went to bed in perfect health, was awakened next morning with a pain much like the former, though neither so exquisite nor equally sharp but that he could make a shift to put off with it, and even at some intervals sleep a little till ten next morning, when all of a sudden it became so violent as to force him instantly to call out for his old cure, a plentiful bleeding, on which for some minutes he felt himself entirely relieved, but soon after complained of a strange anxiety, difficult breathing, coldness of his extremities, and convulsions of the diaphragm.

I saw him before eleven, when I found his pulse much oppressed, very irregular, and often intermitting; his extremities chilled; his breathing almost suffocated, fetching heavy sighs, and very often looking ghastly; spouting saliva frequently, and roaring out. . . . He was immediately bled, and seemed, for five minutes, somewhat relieved; then, all of a sudden, his extremities became cold and rigid as of a dead body, his pulse at no rate to be felt; immediately he cried out that everything was turning round him with strange rapidity. Soon after that he scarcely saw the objects, but imagined himself in such a motion. At last saw nothing, and quite bereaved of all his senses, raved in the most extraordinary manner, often starting up, and tearing everything about him; spouting perpetually great quantities of water, ready every moment to be choked in his breathing, making no complaints of his former pain, but crying out, in the most pitiful manner, how he was abandoned by all, and left among flames that were consuming him, vowing eternal vengeance on all that had so used him.

The tone of his voice often changed; he had convulsions, frequent in his face. . . . He had some intervals during that extraordinary shock, and called instantly for drink; but the moment he saw it, fell into the most surprising horrors, and, as it approached him, started, looked frightened, had frequent convulsions, especially about his mouth, and peevishly put it away with his hand; and then, with an air that spoke at once fright and resentment, he would stare after the drink, and soon after impatiently called for it, and repeated the same scene.

After the last bleeding, finding himself more than ever before relieved, he called hastily for a little warm milk and water: he greedily glutted a mouthful, and that very moment with great force spouted it at a great distance, and, after it, an incredible quantity of saliva, in the same manner, with the same force; and very frequently telling that, notwithstanding all his burning thirst, to swallow it was impossible, nor could he, without a kind of horror, hear of any kind of drink.

The other case occurred in January, 1848, in the Military Hospital at Mustapha—a colony and climate in which rabies is unknown.

CASE.—The patient was a soldier in the Commissariat Department. On admission into the hospital, his face was red, his eyes brilliant and eager, and his pulse full and tumultuous. He complained of severe headache and distressing irritation in the throat. Bleeding was practised, and, at first, with the result of tranquillising the patient. When, however, water was brought to wash the arm, he suddenly made a summersault backwards, and twisted the head violently from side to side. A few minutes later, he leaped out of bed, and hid his head in the coverlet. Light distressed him very much, and at the sight or sound of water, the convulsions were renewed. At first, there were quiet intervals, in which he warned the bystanders away, for fear lest he should bite them; but these intervals rapidly grew shorter and shorter, until they disappeared altogether, and the patient died in the course of the night in frightful agony.

On examining the body, no evidence of any bite could be discovered, and the history of the patient was equally silent. On further examination, some little effusion of serum was found in the ventricles, and some congestion of the upper surface of the anterior part of the right cerebral hemisphere. The stomach, also, and the mucous membrane of the fauces were deeply congested, and the tongue presented prominent lentile-like vesicles at its base, and along its sides.

“One link only is wanting,” writes Dr. Kemp, “in the chain of proof that decidedly assigns hydrophobia a place among those convulsive diseases of the nervous system produced by moral causes, and that is, cases of well-developed hydrophobia that have been cured by the application of a moral remedy. Many very decided cases of this might be brought forward. Perhaps, however, the following, for the correctness of which, we vouch, may suffice.”

CASE.—A gentleman, of gentle disposition, and somewhat refined habits and pursuits, who possessed decidedly the mobile mental constitution, met with a very severe domestic calamity, which greatly depressed his spirits, and increased this mobility. He was bitten by a dog that was violent and delirious, and supposed to be rabid (it was destroyed). This wound was well cauterized. Some weeks afterwards, strong excitement and convulsive movements came on, he believed that he could not swallow fluids, and his alarm and excitement became fearful. Fortunately, he was seen by a medical man

who had very strong suspicions of the "moral" nature of hydrophobia; and he requested a distinguished veterinarian of his acquaintance to interfere. This gentleman visited him, and found him in a state of extreme excitement: he made use of a pious fraud, and assured him that he could not possibly have hydrophobia, because the dog that bit him had certainly not rabies, but some other disease. The patient anxiously inquired if he was sure, and on the statement being emphatically repeated, the excitement passed away, the convulsions ceased, he fell asleep, and in a little time awoke quite well.

1. *Cases of Phlebitis, with Pneumonia and Pleurisy, from chronic disease of the Ear.* By Dr. GULL, Assistant-Physician to Guy's Hospital. ('Association Journal,' 13th April, 1855.)
2. *Clinical Lectures on the pathology and treatment of affections of the Ear.* By Mr. TOYNBEE, F.R.S., Aural-Surgeon to St. Mary's Hospital.
3. *Disease of the Ear: death from implication of the pneumogastric nerve.* By Mr. COE, Surgeon to the Bristol General Hospital.

1. Dr. Gull's cases were recently brought before the Royal Medical and Chirurgical Society for the purpose of directing attention to a consequence of chronic disease of the ear, which has attracted little attention, namely, disease of the lungs and pleura. The cases, which are three in number, occurred in Guy's Hospital.

The first case was that of a man, twenty-one years of age, who, after exposure to cold, was seized with rigors, pains in the head, vomiting, and other febrile symptoms. Three days after his admission, he was found to have difficulty in moving the head, with pain extending down the right side of the neck, and it was ascertained that four years before, when working in a coal-mine, he had received a blow on the right side of the head, after which he had discharge of matter from the ear, and had been deaf on that side ever since. The rigors continued to occur at irregular intervals, and symptoms of pleuritis appeared, followed by those of pneumonia and pneumothorax. He died on the ninth day after his admission, and the sixteenth from the accession of the symptoms. On examination after death, the bones of the right ear were found to be carious, but the brain and its membranes were entirely healthy. The right lateral sinus and jugular vein were inflamed, and contained lymph and pus, and there was lobular pneumonia of both lungs, with gangrene and pneumothorax on the right side.—The second case was that of a man, fifty-two years of age, who had febrile symptoms and rigors, which recurred daily. A few days after his admission, he was observed to have stiffness and pain in moving the head, and he mentioned that from infancy he had at times had a discharge of offensive fluid from the left ear, and was deaf on that side.—The rigors continued to recur, and he had a slight cough. He died on the twenty-fifth day from the accession of his symptoms, and, on examination, portions of the left temporal and occipital bones were necrosed, the lateral sinus and jugular veins were inflamed, the pleura contained a considerable effusion, and both lungs were in the state of lobular pneumonic condensation, and in

places approaching gangrene. The dura mater was thickened, but the brain not materially diseased.—The third case was that of a man, twenty-three years of age, who at first presented signs of low fever; soon afterwards, he had severe rigors, with profuse sweats, and presented the usual signs of pleuro-pneumonia. He had discharge of bloody pus from the right ear, and pain extending down the right side of the neck, and had been nearly deaf for six weeks. He died eight days after his admission, or about three weeks after the accession of the symptoms. On examination, the right ear was found diseased, the occipital bone carious, the dura mater adjacent to it gangrenous, and the brain congested. The lateral sinus contained a clot, in the centre soft and pyriform. In the right pleura there was extensive sero-purulent effusion, and portions of both lungs were in the state of pneumonic condensation and disintegration.

2. Mr. Toynbee calls attention to the same subject through another channel, in a recent clinical lecture at St. Mary's Hospital, and his remarks are of much interest. Disease in the mastoid cells, he tells us, may terminate fatally from purulent infection arising from the introduction of pus into the circulation through the lateral sinus, as well as from disease of the cerebellum, or its membranes, and, before citing the evidence of his own experience, he refers to some former evidence on the subject.

"Dr. Abercrombie," he proceeds, "published an interesting case of purulent infection from disease of the ear; but the subject has been more thoroughly investigated by Dr. Watson, who, although deprived of the opportunity of making *post-mortem* inspections of the highly interesting cases which he has so fully detailed, there remained no doubt in his mind, nor can there be any doubt in the minds of his readers, that the cause of death was the introduction of pus into the system from the mastoid cells. Dr. Bruce has since published some valuable cases bearing upon the subject; and Mr. Wilde gives the details of a case in his work on the Ear. The facts brought forward by these gentlemen, coupled with those I shall lay before you as the result of my own experience, will, I trust, enable you thoroughly to comprehend the nature and progress of the disease. The following is Dr. Abercrombie's case:"

Disease of the Mastoid Cells; Deposit in the Lateral Sinus; Secondary Deposit in the Pleura.—A young lady, æt. 15, had been liable for six or seven years to attacks of pain in the right ear, followed by discharge of matter; but she had been free from any of these attacks for some time previous to the abscess which forms the subject of the following history. On the 25th of April, 1822, she complained of cold shivering through the day, and in the evening had headache, with pain in the right ear; and these symptoms continued on the following day. On the 28th, she was seen by Mr. Brown, who found her with quick pulse and foul tongue, severe pain in the ear, and slight headache. On the 29th, some discharge took place from the ear, but without relief of the pain, which continued with violence until the following day. On the 1st of May, the pain was somewhat abated in the ear, but had extended over the right side of the head; pulse frequent. General and local bloodletting were employed with partial relief. I saw her on the 3d. The headache was then rather abated; the pulse was

frequent and weak; she had a pale, unhealthy aspect, and a look of oppression bordering on coma. The pain was chiefly referred to the parts above and behind the right ear, where the integuments were painful on pressure, and, at one spot near the mastoid process, felt soft and elevated. A puncture was made at this place with a lancet, but nothing was discharged. Topical bleeding, blistering, &c., were recommended.

4th.—Pulse, in the morning, 148; in the course of the day it fell to 84; looking much languor and exhaustion.

5th.—Dark-coloured matter of intolerable fetor began to be discharged from the puncture which had been made behind the ear. The opening here was enlarged; and a probe being introduced, the bone was felt bare and rough over a considerable space; headache much relieved; pulse natural.

6th.—Great discharge from the opening; headache much relieved; pulse 112; complained of some pain in the left side of the thorax; and there was considerable diarrhœa.

7th.—No headache; there was much discharge of fetid matter from the opening near the mastoid process, and a probe introduced by it passed downwards and backwards under the integuments as far as the spine.

8th.—Pain in the thorax continued, and was now so urgent that a small bleeding was employed with partial relief; it could not be carried further, on account of increasing weakness. Pulse 140.

9th.—Said she felt better, and made no complaint of pain; pulse very rapid, and strength sinking.

Died on the 10th.

Autopsy.—Every part of the brain was in the most healthy state, except a small portion on the right side, near the ear, which was of a dark, leaden colour; the tinge, however, was entirely superficial. The right temporal bone, externally, was bare through a great part of its extent; internally, it was in many places rough and dark-coloured, and there was some dark-coloured matter betwixt it and the dura mater. The dura mater at this place was for a considerable space thickened, spongy, and irregular; the coats of the right lateral sinus were considerably thickened through its whole extent, and the capacity of the sinus was very much diminished by a deposition similar to that which occurs in the cavity of an aneurism. The internal ear contained dark-coloured matter. The left cavity of the pleura contained fully a pound of puriform fluid; the left lung was collapsed, dense, dark-coloured, and covered by a coating of coagulable lymph.

From the examination I have made of deposits in the cavity of the lateral sinus, I have no doubt that the matter alluded to in the above case consisted of coagulated blood mixed with pus.

The following is one of Dr. Watson's cases:

A boy, æt. 11, had had a discharge of offensive, purulent matter from his ear since the time when, four years before, he had gone through an attack of scarlet fever. In August, 1833, he went for a walk into Kensington Gardens, and there lay down and slept upon the damp grass. The next day, he was attacked with headache, shivering, and fever. Strong rigors, followed by heat and perspiration, occurred very regularly for two or three days in succession, suggesting the suspicion that his complaint might be ague; but then pain and swelling of some of the joints came on, and were at first considered rheumatic. However, the true and alarming nature of the complaint soon became apparent. Abscesses formed in and about the affected joints; and one of these fluctuating swellings was opened, and a considerable quantity of foul, grumous, dark-coloured matter let out. After about a fortnight, the

child sank under the continued irritation of the disease. The hip-joint presented a frightful specimen of disorganization; it was full of unhealthy, sanious pus; the ligamentum teres was destroyed; the articular cartilages were gone; and matter had burrowed extensively among the surrounding muscles. The knee and ankle-joints of the same limb were in a similar condition. Unfortunately, the head was not examined; but that the fatal disorder had penetrated from the ear to the dura mater I entertain no doubt; in all probability the inflammation had involved the veins or sinuses of the head.

Having given another case of a similar nature, Dr. Watson says:

I much lament that, in these instances, the direct link of connexion between the disease of the ear and of the disorganization of the joints was not demonstrated, for seeing (they say) is believing. Yet the pain of the ear, the discharge of pus from the external meatus, the subsequent pain in the head, coming on with fever and rigors, and followed, after a short interval, by destructive suppuration in several distant parts, and, in the latter case, the actual femoral phlebitis—these circumstances form a chain of presumptive evidence amounting, in my judgment, to moral certainty, that the fatal mischief, in each case, found entrance through “the porches of the ear;” and that the dura mater underwent inflammation. The same evidence is scarcely less affirmative of the complication of cerebral phlebitis. Perhaps the veins of the diploë, which, in the cranial bones, are of considerable magnitude, were involved in the inflammatory mischief; perhaps the large sinuses of the brain. The close proximity of the lateral sinus to the diseased bone, and its formation by a duplicature of the dura mater, would seem to render such a complication highly probable.

“The direct link of connexion between the disease in the ear and that of the circulating system was pointed out by Dr. Bruce, and also in the case cited by Mr. Wilde. In this case, ‘the membranous walls of the right lateral sinus throughout the whole of the mastoid portion of its course, were much thickened, and their lining presented a sloughy appearance, being covered with lymph of a greenish hue, and smeared with unhealthy purulent matter. This condition of the lining membrane extended along the jugular vein and superior vena cava, and within a short distance of the latter into the auricle. The left cavity of the pleura contained about four ounces of a thin, fetid matter.’ In addition to the facts above cited, all that is required is an account of the exact condition of the ear; and this I have supplied in the following case, which occurred to Dr. Heale, at the Free Hospital.”

Pus in Mastoid Cells; Caries of the Lateral Sulcus; Pus in Lateral Sinus; Secondary Deposits.—Harriet G——, æt. 20, was admitted into the hospital on the 9th of March, 1850. She had great fluttering and irregular vibrating action of the heart, resembling erythismus mercurialis, but which subsided in a day or two. She was deaf in the left ear, and had long been subject to intense ear-ache, with occasional fetid discharge from the meatus. She was restless, sleepless, occasionally delirious, and had no appetite. Soon after her admission, an abscess formed just above the left collar bone, which discharged large quantities of matter until her decease. The disturbance of the heart's action returned after three doses of hyd. c. creta, six grains having been given every six hours; but it again subsided in about two days. She then had severe delirium, which abated after a sudden, large, and fetid

discharge from the left ear; finally, she had erysipelas, violent delirium, succeeded by coma, and died on the 15th of April.

Autopsy.—A very large excavated abscess, with sinuses in various directions, was exposed at the root of the neck on the left side, communicating with, and extending through, the whole of the carotid sheath. The internal jugular vein was full of matter, which was also found burrowing down in the direction of the vena innominata; a fibrinous clot was found in that vein, extending into the descending vena cava; this being examined by the microscope, was found to contain pus globules. The lungs were filled with a frothy and purulent infiltration, without consolidation; there was a small circumscribed abscess between the pleura pulmonalis and the right lung, but not extending into the substance of the latter. The heart was healthy. The liver was pale-coloured. The cerebrum was healthy; the arachnoid membrane in parts appeared smeared over with pus, more particularly in the posterior part, near the falx, joining the tentorium. The tentorium covering the left lobe of the cerebellum was much inflamed, thickened, and had matter between it and the arachnoid covering that lobe of the cerebellum; and, immediately beneath this, on cutting into the cerebellum, a circumscribed abscess, about the size of a walnut, was discovered. This was nearer the falx cerebelli than to the outer margin of the cerebellum; the part of the cerebellum in contact with the cranial bones was healthy.

The petrous bone was examined by myself, and reported upon as follows:

The meatus externus contained purulent matter. The glandular and periosteal portions of the membranous meatus were much softer than natural, and they adhered but slightly to the surface of the bone. The bone forming the upper and outer half of the tube was found to present numerous foramina for the transmission of blood-vessels; they were much larger than natural, and some of them were surrounded by delicate layers of new bone; through the larger of these foramina large bristles could be passed, and they appeared to communicate with canals in the interior of the bone, which were continuous with orifices in the sulcus lateralis at its inner surface. The lateral sinus was of a dark brown colour; the dura mater forming its posterior wall was entire. The sinus was full of coagulated blood, mixed with purulent matter. The dura mater constituting its anterior wall, and which was in contact with the surface of the bone forming the sulcus lateralis was very thick and soft; portions of it were destroyed by ulceration, and the bone was exposed. The bone forming the sulcus lateralis was of a dark colour, and covered by masses of lymph and pus; its surface was rough, presenting throughout numerous orifices and tortuous grooves; this appearance being produced by the almost complete disappearance of the internal table of the skull, which (excepting two scales, each measuring about two lines in diameter) had been destroyed by caries. A carious orifice existed between the cavity of the cerebellum and the mastoid cells. The bone forming the jugular fossa was also carious. There was an orifice in the posterior part of the membrana tympana. The tympanic mucous membrane was much thicker than natural, and in the upper osseous wall were observed a few small foramina for blood-vessels, and a carious orifice of a size sufficient to allow the passage of a small pin.

The mastoid cells at their upper part formed a cavity about the size of an ordinary horse-bean; it contained pus. This cavity communicated posteriorly with the lateral sulcus by means of an orifice three lines in diameter; anteriorly, the orifice into the tympanic cavity was not more than two lines in diameter, and it was placed above the level of the floor of the cavity containing the pus.

Pus and scrofulous matter in the Mastoid Cells; communication with the

Lateral Sinus by the Veins; Secondary Deposit in Pleura.—Kitty D——, æt. 15, was admitted, under my care, as out-patient at St. Mary's Hospital, on the 16th of February, 1854. She stated that, six months previously, she suffered from pain in the left ear, which was followed by dulness of hearing in it, as well as in the right ear, and this had remained to the present time, accompanied by a discharge from the left ear. Upon examination of the left ear, a small red polypus was seen at the inferior part of the meatus, near to the membrana tympani; the latter membrane was white; she did not complain of pain in the head. She was ordered gentle counter-irritation behind the ear, and the ear to be syringed with a weak astringent lotion. She remained much the same until March 27th, when she was admitted, in my absence, as an urgent case, under Dr. Sibson, in the hospital. When admitted, she was partly unconscious, was extremely prostrate, and could not speak; the skin was parched; the tongue brown and dry. Pulse 140, very small and thready; pupils sluggish; the left rather more contracted than the right. Upon inquiry, it was found that, three days before, a marked difference was observed in her manner; this was attributed to the pain in the head and left ear, of which she much complained; she was unable to do any work. On the 25th, she kept her bed; on the 26th, she became still worse; and, on the 27th, application was made at the hospital. Upon being seen by one of the officers, she was at once admitted. Stimulants were freely administered, and the patient somewhat rallied; during the night she was very restless, and wandered a good deal.

28th.—Seems quite sensible of all that is done to her, but does not speak; she mutters to herself. Pulse 140; skin hot; but still some moisture is apparent. Loud sonorous rhonchus of right lung; the head is held to the right side; the mouth is drawn to the right; the nostrils are expanded, and there is partial paralysis of some of the muscles on the left side of the face. She was supported by stimulants at the same time that a leech was applied to the neck.

10 p.m.—Very low; surface cold; skin clammy; face livid; subsultus tendinum; pulse feeble and irregular.

29th.—Much as yesterday; rambled during the night; voids urine involuntarily; tongue brown and moist; pulse 140, very small. During the evening very low; voided urine in the bed; muscles suddenly contracting.

30th.—Slept badly; at times wandered much; breathing hurried; pulse 140; nostrils dilated. She gradually became worse, and died at 2-15 p.m.

Autopsy.—Cerebrum firm; ventricles dry; grey substance very dark. Over the left lobe of the cerebellum, at the posterior part of the petrous bone, is a dark bluish portion of the size of half-a-crown. The grey matter of the cerebellum very blue, to the depth of one eighth of an inch; beneath the discoloured spot, the substance of the cerebellum was slightly softened. There were considerable adhesions between the lungs and the pleura costalis; there was also tubercular deposit, covered by an unhealthy, plastic, fibrinous exudation; the pleural cavities contained a pint of fluid. The dura mater forming the posterior wall of the lateral sinus (where it is situated in the temporal bone) was of a dark colour, and soft; the sinus contained at its upper part a firm coagulum of dark-coloured fibrin; at its lower part it was full of dark-coloured pus. The anterior wall of the sinus was attached to the bone much less firmly than natural. The mastoid cells were full of pus and scrofulous matter; their anterior wall presented an orifice about two lines in diameter, which opened into the meatus externus. The incus and the thick mucous membrane around it prevented the pus from escaping. The orifices

for the passage of the blood-vessels from the mastoid cells to the lateral sinus were somewhat larger than natural.

It will be observed that, in this case, there was not any caries of the bone towards the cerebellum, and the only means by which the disease from the mastoid cells could be propagated to the cavity of the lateral sinus must have been the veins.

3. Mr. Coe's case is evidently one of remarkable interest, but it is almost spoiled for want of sufficient circumstantiality. It would seem to point to the conclusion that the lungs may become implicated in the cases under consideration through a nervous as well as through a venous channel. In Mr. Coe's opinion, the fatal result in his case was immediately due to irritation of the pneumogastric nerve, more especially of its inferior laryngeal branch. He writes :

CASE.—An out-patient of the Bristol General Hospital came under my care, complaining of running from the right ear, which had existed for some years, and occasional paroxysms of acute pain in the ear and head whenever the discharge ceased for a time, such being the case at the period of application. Leeches were applied to the mastoid process, and warm fomentations to the side of the head, and mercury was given internally. On the next day, symptoms of meningitis having come on, the patient was taken into the house. He progressed favorably for some days; afterwards he began to complain of stiffness and pain in the right side of the neck, and sudden attacks of difficulty of breathing, as if from spasm of the glottis. There was a distinct rope-like swelling descending from the base of the skull down the side of the neck, in the situation of the carotid sheath; it was very tender to the touch.

The diagnosis was, caries of the posterior portion of the temporal bone, meningitis, obstruction of the right lateral sinus, either from extension of inflammation or from secondary purulent deposit, subsequent coagulation of blood in the internal jugular vein, inflammation of its sheath, with involvement of the pneumogastric nerve, especially the inferior laryngeal nerve (the phenomena of the irritation of this branch being, at any rate, more daily manifested than of any other portion of the nerve).

The correctness of the diagnosis was proved by the post mortem examination.

It would appear from these cases, that the chest may become implicated in more than one way as a consequence of disease of the ear, and hence another reason for regarding these cases with suspicion, and for treating them with promptness. The fact, also, is of great practical importance, for it naturally prompts us to inquire into the condition of the ear in sudden and serious affections of the lungs and pleura, and suggests a very different treatment, as well as a much more guarded prognosis, in cases where there is evidence of such disease.

Case of Consumption cured. By Dr. STOKES, Professor of Physic in Trinity College, Dublin. ('Dublin Medical Press,' 29th Nov. 1854).

We put the subjoined case in this place because there appears to be a great practical truth underlying it. For ourselves, indeed, we have been long convinced that all phthisical and scrofulous subjects require a much larger quantity of alcoholic stimulus than ordinary

persons, and that one reason, at least, why these cases are so unmanageable is, that this fact is not fully recognized. We will not now enter into any reasons for this opinion, but we will leave Dr. Stokes to tell his own tale.

"Some years ago," he says, "I saw a gentleman, who came to town labouring under all the symptoms of well-marked phthisis. The disease had been of some months' standing, and the patient *was a perfect* picture of consumption. He had a rapid pulse, hectic, sweating, purulent expectoration, and all the usual *physical signs* of tubercular deposit, and *of a cavity* under the right clavicle. I may also state, that the history of the disease was in accordance, in all particulars, with this opinion. I saw this patient in consultation with a gentleman of the highest station in the profession, and we both agreed that there was nothing to be done. This opinion was communicated to the patient's friends, and he was advised to return to the country. In about eighteen months afterwards a tall and healthy-looking man, weighing at least twelve stone, entered my study, with a very comical expression of countenance:—'You don't know me, doctor,' he said. I apologised, pleading an inaptitude that belongs to me for recollecting faces. 'I am,' he said, 'the person whom you and Dr. — sent home to die last year. I am quite well, and I thought I would come and show myself to you.' I examined him with great interest, and found every sign of disease had disappeared, except that there was a slight flattening under the clavicle. 'Tell me,' said I, 'what you have been doing?' 'Oh!' he replied, 'I found out from the mistress what your opinion was, and I thought as I was to die I might as well enjoy myself while I lasted, and so I just went back to my old ways.' 'What was your system of living?' said I. 'Nothing particular,' he said, 'I just took whatever was going.' 'Did you take wine?' 'Not a drop,' he replied; 'but I had my glass of punch, as usual.' 'Did you ever take more than one tumbler?' 'Indeed, I often did.' 'How many? Three or four?' 'Aye, and more than that, I seldom went to bed under seven!' 'What was your exercise?' 'Shooting,' he said, 'every day that I could go out.' 'And what kind of shooting?' 'Oh, I would not give you a farthing for any shooting but the one!' 'What is that?' 'Duck shooting.' 'But you must have often wetted your feet?' 'I was not very particular about the feet,' says he, 'for I had to stand up to my hips in the Shannon for four and five hours of a winter's day, following the birds.'

"So, gentlemen, this patient spent his day standing in the river, and went to bed after drinking seven tumblers of punch every night; and if ever a man recovered from phthisis he had done so when I saw him on that occasion. Suppose, now, that he had been confined to an equable temperature, and a regulated diet, and had been treated in all respects *secundum artem*, what would have been the result? Any of you can answer the question. In point of fact, this very treatment had been adopted during the first three months of his illness, and his recovery may be fairly attributed not so much to the duck-shooting and whiskey-punch, but to the general tonic and undepressing treatment which he adopted for himself, and which his system so much required to enable him to throw off the disease."

Pathological and Clinical Observations respecting morbid conditions of the Stomach. By C. HANDFIELD JONES, M.B., Cantab., F.R.C.P., F.R.S., Assistant-Physician to St. Mary's Hospital. (London, Churchill, 8vo, pp. 226, 1855.)

This book is based upon a paper contained in the Medico-Chirurgical Transactions, of which a good abstract will be found in our last volume (XX, p. 87). It does not profess to be a complete treatise on diseases of the stomach, and it only aims at elucidating some comparatively unnoticed points. These points, however, are of very great importance, and we have no hesitation in saying that the information afforded is of a very high degree of value. The book is well illustrated by plates, and very rich in cases; and the only fault we are disposed to find is one which can be easily rectified in a future edition,—this is the confusion of the cases with the other parts of the text, by the adoption of the same type, and the want of sufficient divisions in many places between the paragraphs. This fault certainly detracts very much from the pleasure with which the book might be read.

The work is arranged in four chapters. The first two are devoted to the anatomy and physiology of the stomach; the last two to the pathology. In the chapter on the anatomy, much attention is paid to the lenticular or solitary glands. These are regarded as having an inverse relation to the specially organized tissues. They are numerous in children, disappear as the stomach acquires the fully organized condition of adult life, and reappear apparently when the stomach exhibits signs of a degenerative character. In the chapter on the physiology of the stomach, there is much interesting matter, and that which we should instance as most interesting are the remarks upon the digestive powers of the intestines. We intend to notice these in another place and on another occasion.

The various pathological states which form the subject of the third chapter may be classed under the following heads: (1) Those in which hyperæmia or inflammation is the most prominent feature; (2) those in which the secretion is more or less manifestly morbid; (3) those in which there are chronic textural changes of a wasting character; (4) those in which ulcerations are present. The whole chapter is full of valuable facts and opinions, and especially that part which concerns the chronic changes of a wasting character, in illustration of which we would direct attention to the remarks upon *atrophy of the glandular tubes, with varying amount of fibroid formation*, merely adding our entire concurrence in the opinion of the author. We would gladly have enlarged upon the valuable microscopic disclosures in this and other changes, but we must refer for these to our last volume (XX, p. 87).

Speaking of atrophy of glandular tubes, &c., Dr. H. Jones remarks—“There is a group of instances of atrophic change, not well defined, but which yet it seems fit to separate from the foregoing, in which great destruction of the tubes of the mucous membrane occurs. They are, for the most part, replaced by a fibroid or granular matter, much less loaded

with nuclei than the new-formed tissue in the class lately described. Some of the following examples are very striking.

“Case 17.—T. P., male, æt. 62, very anæmic; has generally lived quietly, worked hard, and been a good deal exposed to weather. Was never laid up before this attack, and does not remember having had any previous illness. Six months ago had an accident, not injuring him materially. A fortnight after this, dropsy appeared in the legs. Has had cough, and watery, mucous expectoration some time. Pulse regular, of moderate force. A pulsating tumour is felt above the sternum, towards the right. The heart’s apex beats in its normal situation, regularly and with good force. There is a loud, systolic murmur at the apex. The second sound can be heard at the base pretty clear, but attended with some murmurish sound. Higher up, in the course of the aorta, especially near the right clavicle, there is a very loud diastolic murmur, and a systolic also. On each side of the neck the systolic can be heard, but loudest on the left. A diastolic murmur is heard in the upper part of the abdominal aorta. The impulse of the heart is extended; it is felt manifestly over the lower part of the sternum, and in the epigastrium; its dulness extends just beyond the right edge of the sternum. The rhythm is occasionally intermittent. Breath-sound in lungs normal. Liver not displaced. No arcus senilis. The appetite was not very good, and there was occasional diarrhœa, or a tendency to it. He remained in the hospital (St. Mary’s) several weeks, and improved somewhat, the anæmia, however, scarcely diminishing, and then went out. Very soon after he caught cold, as he said, and was confined to his bed some time. He returned to the hospital September 20th, much weaker than he had been before, gradually declined, and died October 7th. *Post-mortem*:—There was extreme anæmia. The heart was large, its walls hypertrophied, its tissue of good colour. The aortic and mitral valves were efficient, but rather thickened. The right valves quite healthy. Ascending aorta healthy, but somewhat dilated; some rough calcareous deposits at the entrance of left subclavian. Left carotid came off from A. Innom., which was placed more to the left than usual. Atheroma of aorta not very advanced, but general; some bony plates in one or two parts. Other organs healthy. Stomach: the mucous membrane was generally pale, but tinged yellow by bile, with a few vascular arborizations here and there. Two portions of the mucous membrane were carefully examined, and found to be most gravely altered. In vertical sections no trace of the tubes was to be seen. The basement membrane still existed in some parts, in others it was lost; beneath it was a layer of fibroid tissue, containing at its lower part numerous fat vesicles. After the addition of acetic acid, some remnants of the tubes were brought into view, imbedded in an indistinctly nucleated fibroid stuff. One of these appeared as an imperfect tube, slightly bulged at its lower part, another as an oval cyst, with a short, truncated neck; another as a spherical cyst, containing some granulous matter, and oil molecules. The tube and oval cyst contained only an indistinct granulous, or granulo-fibrous matter. Here was a case of extreme wasting of the secreting structure of the stomach, coinciding with like wasting of the blood, without any apparent cause, and without any symptoms that could excite suspicion of the extent of the lesion. Whether the tubes primarily underwent

atrophy, or secondarily, in consequence of the encroachment of interstitial fibroid tissue, seems scarce possible to decide positively. I strongly incline, however, to the former view. The stethoscopic phenomena were very interesting. However it may be accounted for, there can be no doubt that a diastolic murmur was heard both by myself and Dr. Markham, although the aortic valves certainly appeared quite adequate to close the orifice. Possibly the dilated condition of the ascending aorta may have had some share in its production. Though the period of life was advanced, this was clearly but a very secondary 'moment' in the atrophic change. In the following case it is probable that it was more influential.

"Case 18.—S. E., æt. 90, a nurse in an infirmary, died apparently of old age, having had no other disease, at least recently, except some slight bronchitis. *Post-mortem* :—Much fat under skin of abdomen, and about the viscera. Limbs spare. Heart healthy. Lungs very tolerably healthy, but cedematous, and engorged posteriorly. In the anterior margin of the right there was a mass of grayish induration, over which the pleura was thickened and adherent. Numerous pleural adhesions on both sides. Liver healthy, with some chronic thickening of the capsule. Kidneys atrophied to one-half of their normal size, or less, and highly granular. Uterus enlarged, retroverted; its cavity much larger than natural, and lined with a bloody coagulum. Stomach contracted, except in the splenic region. It contained some thin chocolate-coloured fluid, feebly acid. This exhibited, under the microscope, tubular and columnar epithelium, granular matter, and stellar groups of acicular crystals (margaric acid). The mucous membrane was throughout of rather dirty, slaty aspect. Splenic region: mucous membrane appears thinned; a section shows the tubes excessively wasted, debris remaining here and there, with fatty contents, and cystic formations also of large size, and the whole imbedded in a dense woof of fibroid tissue, which is traversed by a great number of remarkable yellowish-red streaks. These consist of coloured oil molecules, forming elongated fusiform bodies. The basement membrane remains perfect, but underneath it there is an abundant deposit of oily drops, or fat cells. Mid region: the tubes are quite changed from their healthy state; groups of convolutions are seen here and there, appearing as if they had lost their external openings. The basement membrane is very perfect, but all beneath it there is a coarse granular and fibroid tissue, containing celloid corpuscles, and abundance of free oil. Pyloric region exhibited some marked mammillation. The tubes were wasted, and their lower ends thrown into convolutions in several parts, while their upper appeared to be obliterated. There was much granular and nuclear deposit under the basement membrane, which was perfect. There were a few massy nuclear deposits. Atrophic change, in this instance, had specially located itself in the stomach and kidneys. There seems every reason to believe that it had been very slow and gradual. It seems to have come on as a part of senile decay, and never to have manifested itself by any remarkable symptoms. To speak of the changes wrought as the results of chronic gastritis or nephritis, of any degree or kind, seems to me to set up a pure hypothesis; scarcely more warranted than it would be to consider the wasting that affects the thymus, and the suprarenal capsules, as the

result of chronic inflammation. Thoroughly do I agree with that great observer of disease, M. Andral, so wide-seeing in his views, and so calm and wise in his opinions, when he speaks as follows with respect to softening of the stomach:—"Certainly it is proceeding on a fair and rational analogy, and not transgressing the laws of a sound philosophy, to admit that, in cases where the principal agents of life—the blood and nervous system—no longer nourish and excite the organs sufficiently, all the vital force of aggregation, by which the different molecules of the living tissues are held together, ceases to possess its natural and physiological intensity; thence the diminished cohesion of these tissues, and their greater or less softening, from the degree where, as is commonly said, *there is flaccidity of the flesh*, to that where the solid, losing the characters of organization, manifests a tendency to return to the liquid state. Thus the transparent cornea becomes softened, and is perforated in animals that are put on a regimen not sufficiently nutritive."

"What is true of one form of atrophy, is true, no doubt, of others. That inflammation may, and often does, produce atrophic changes, is perfectly true, but I cannot but regard it as a mischievous error, to assume that it is the only, or the most frequent, cause of such changes. Surely, to the unprejudiced observer, the great and wonder-moving circumstance is, that the various tissues retain their endowments, and the organs discharge their functions, amid all the counteracting influences that surround them. Blink the fact as we will, vitality is the supreme overmastering power in the economy, and the most formidable maladies the physician has to oppose are just those which essentially depend upon its decay. Let the constitutional power be sound and unbroken, and we know we can deal with inflammation in most cases successfully; but when the reverse is the case, how much more difficult and discouraging does our task become! There is much more general appreciation of the true character of disease now than in former days, and yet how large is the space, and how prominent the position assigned to inflammation, and the antiphlogistic treatment, in our best class-books, compared with that which is given to other less manifest morbid processes. Inflammation is a term of universal authority; degeneration and atrophy have scarce a place in our vocabulary."

The concluding chapter is occupied chiefly with some clinical observations upon certain functional derangements of the stomach, with respect to which *post-mortem* examination can give but little information. As an illustration of the contents of the chapter, we may take the very good and practical remarks upon catarrh of the stomach, and this must form our conclusion.

"From the analogy of other mucous membranes, and from actual experience, there is ample proof that catarrhal disorder of the gastric mucous surface is the most common pathological condition which is met with. In its early stage, and in its exacerbations, it constitutes a large proportion of the cases which fall under class 1. In its later and less active stages it swells the number of class 2. It appears to have for its opposite the common condition of nuclear interstitial formation, which proceeds so latently. Its exciting causes will be all such as in any way irritate the mucous membrane, whether this effect be produced by indigestible food, stimulants in excess, the atmospheric poison of catarrh, or

that of syphilis or rheumatism. Passive congestion and atony of the vessels are the most powerful predisposing. Its anatomical signs may be recapitulated as congestion of the vessels, primarily and principally of the larger capillaries of the surface; the secretion of viscid mucus in varying quantity; and diminution or arrest of the healthy acid secretion. Blood may exude in greater or less amount from the distended vessels, and give a black colour to the matters vomited. Sarcinæ may form in the mucus which covers the surface, and may lie there without producing any symptoms. The unhealthy mucus may be more or less watery; sometimes it is so much so that the viscid character is almost entirely lost. Its quantity is then increased, and it is often discharged in large gushes from the mouth. This flux, so analogous to that which often takes place from the bronchi, or from the Schneiderian membrane, is the principal symptom of the disease called pyrosis, or, popularly, 'water-brash.' The most important fact to remember respecting it is that, like bronchorrhœa, it is scarcely ever attended with pyrexia, or any local inflammatory movement. It is a half-passive, half-active flux, to restrain which astringents may be freely given without fear. In the acute period of catarrh there is tenderness at the epigastrium, pain referred to the lower part of the sternum, the left side, or between the shoulders. This pain is increased by taking food, sometimes very notably by hot things more than by cold. In the later period of catarrh, when the hyperæmia has subsided, the pain is more of an aching kind, or a low, sinking feeling, or a sense of uneasiness. Neuralgic pains, dependent on gastric irritation, may be felt in the head and other parts. The irritability of the stomach is not unfrequently so great, that no relief from pain can be obtained until the food is rejected by vomiting. In some cases marked by a red, too clean condition of the tongue, which looks as if denuded of its epithelium, the gastric surface appears to be morbidly sensitive. It is irritated by the least thing, and the digestive power is very imperfect. Still, the result of treatment indicates that there exists rather a disordered condition of the nerves of the stomach than any considerable degree of inflammation. There is, probably, at the same time, a persistent erythematous state of the mucous surface, which does not become covered with the layer of mucus, by the exudation of which hyperæmia usually relieves itself. This morbid condition is very difficult of complete cure; it has appeared to me to be especially connected with the nervous temperament. It is not, however, to be regarded as neuralgia of the stomach. Cases of inflammation of the conjunctiva, such as those described by Mr. Tyrrell, p. 29—34, vol. i, of his work, are probably of an analogous kind. Flatulence, to some extent, is of common occurrence in catarrhal affections of the stomach, but it does not occur in the extreme degree that it does in more purely neurotic conditions. The bowels are often confined in cases of gastric catarrh, but I have observed, in several cases where the irritative condition just described has been well marked, that they acted regularly, and that constipation was not produced by the daily administration of opiates. There is nothing characteristic in the urine of gastric catarrh; it is sometimes high-coloured; but this seems to be only part of a general febrile movement, and passes away with it. The catamenial discharge is often irregular in females, or there may be amenorrhœa. The tongue has not appeared

to me to afford any absolutely certain indication of the state of the stomach, not even in the case just mentioned, where irritability is the prominent feature. I doubt exceedingly the correctness of Andral's statement, that the appearance of red injected papillæ at the apex 'is always in the direct ratio of the intensity of the gastric irritation.' The sensation of thirst varies. I have not often found it very marked, at least in cases which have lasted some time. A sense of 'inward fever' is sometimes complained of, evidently referred to the stomach, or a 'burning pain,' or 'a hotness.' The state of the appetite varies; where there is much pain after taking food it is rather deficient, and very much so when the membrane may be presumed to be in a relaxed atonic state, incapable of pouring out healthy gastric juice. In other cases, where a state of irritation predominates over atony, there is a constant feeling of craving for food, which seems, as the sufferers say, to do no good. The sensation is a false and delusive one, and, if yielded to, aggravates the morbid condition. It cannot be appeased by fresh excitation, but is to be met by sedatives. The association of gastric with bronchial catarrh is very frequent, and one very common cause of relapse is 'having taken a fresh cold.' The matters vomited in gastric catarrh will, of course, vary according to the pathological condition of the organ, and the kind of food (if any) that has been taken. If the vomit consists chiefly of ingesta, mingled with a non-tenacious acid fluid in moderate quantity, not fermenting, and not containing sarcinæ, the case is probably one rather of irritability of the organ, than of catarrh. In acute catarrh the vomit is acid, and contains a good deal of tenacious mucus, together with watery fluid. When there has been much hyperæmia, the fluid may be of a brownish tint, and show, under the microscope, remains of blood globules or masses of orange pigment. The tenacious mucous plasma often presents the appearance of fibres, just as mucous from other parts does, when treated with acetic acid. Numerous nuclei from the cells of the tubes are seen imbedded in it, and sometimes even the cells themselves, more or less altered. Composite nuclei, in large masses, are sometimes present, exactly resembling those of pus or mucus corpuscles, and I have in one case been able to restore the original corpuscles by adding solution of carb. of soda. I do not, however, think that these corpuscles are formed in the stomach. I rather believe them to proceed from the pharyngeal follicles, and to be mingled with the gastric fluid, just as epithelial scales from the mouth or œsophagus often are. Neutral or alkaline watery, colourless vomit, if habitual or frequent, is indicative, I believe, of a chronic catarrhal state, with, not improbably, a denenerated condition of the mucous membrane, or considerable depression of the general power of the system. Sarcinæ are not unfrequently found in the vomit of chronic gastric catarrh; but the fluid has not the peculiar frothy, fermenting appearance, and there are no special symptoms.

"When stomach catarrh is attended with much irritability of the mucous membrane, the mental condition is evidently affected. The irritation conveyed to the brain by the pneumogastric betrays itself by an anxious, morose, petulant, or fearful temper, which may often aid the observer in appreciating aright the morbid state. On the other hand, the influence of mental conditions upon the stomach is very great, and may be an insuperable cause of disorder.

"The foregoing remarks are only intended as an outline of the symptoms generally observed in the varieties of gastric catarrh. To enter more into detail would be not to the purpose I have in view, and has been done completely by others. What I wish to do is, to present a somewhat clearer and simpler view of a very varying and sometimes puzzling complex of symptoms, by contemplating them with reference to known pathological states. I wish the reader not to think so much of dyspepsia, whether atonic, inflammatory, or irritative, but of a state of the mucous membrane conveniently expressed under the term catarrh, and passing through all the stages and presenting all the varieties which it does in other situations. A little reflection on a common nasal catarrh will help us a good deal to understand the varying phenomena of gastric catarrh."

Dr. H. Jones then proceeds to give some illustrative cases, but we must not follow him any further. We have said enough, however, to show that we consider this volume a valuable contribution to the stores of medical knowledge, and we would strongly recommend it to the attention of our readers.

1. *Registrar-General's Quarterly Returns of Deaths in England and Wales during 1854.*
2. *Weekly Reports of Births and Deaths in London during 1854.**

These important documents are of so much interest to the profession, and contain so much valuable information respecting many questions of vital interest, that they cannot be too frequently brought under notice, or examined with too great care.

Having, in two previous volumes, enlarged at some length upon the interesting subject of these official reports, in conformity with this annual custom we again proceed to notice the sanatory condition of England and Wales during the past year. This task is always useful; whilst the interesting facts contained in these instructive quarterly and weekly returns, besides being amply deserving of perusal, supply numerous authentic data for other investigators to deduce varied and highly important practical conclusions.

Throughout England and Wales, the aggregate deaths from all diseases was considerable during 1854: greater, indeed, than in any previous year. The total number being 438,239, or 16,464 more than in 1853; thus making near 4 per cent. of an increase. As, however, the births were unusually numerous, or actually 634,506, which gives 22,165 more than in the preceding year, the actual increase of population was larger in 1854 than in the former twelve months, although the gross mortality had augmented. This fact is consolatory, and however severely some epidemic maladies recently prevailed in many districts of Great Britain, viewed as a whole, the calamities hence produced, seem, in reality, neither so general nor appalling as

* We are again indebted to Dr. Webster, F.R.S., for the report on this interesting subject.

the fears of many persons at first led them to imagine. It is also further worth mentioning, notwithstanding the great mortality of 1854, the excess of births over deaths was really greater than during 1853. In the latter year, the actual amount being 190,566: whereas, during 1854, the rate reached 195,267; this increase, however, became considerably diminished, with regard to its effect in augmenting the population, through extensive emigration.

Viewed in reference to season, some discrepancy respecting the number of deaths prevailed in the different quarters, but nothing very remarkable: the lowest mortality having occurred during the spring, or second quarter, when only 102,666 persons died. The next lowest period was the fourth quarter, or last three months of the year, which gave 109,664 deaths. Then the months of January, February, and March, when 111,970 deaths were reported. Lastly, the third quarter, which comprises such warm months as July, August, and September, occupied the highest position in the mortuary scale; seeing the aggregate amount of cases terminating fatally from all diseases reached 113,939, being, however, considerably under the mortality experienced during the parallel months of 1849, when cholera likewise prevailed epidemically, and with great virulence, throughout England. In the quarter last mentioned, 135,227 deaths were reported, being therefore 21,288 more than during the corresponding quarter of 1854, although cholera was also then present; and irrespective, likewise, of the recently increased population; which fact ought always to be taken into calculation. Consequently, every collateral circumstance considered, the particular season under discussion, notwithstanding its great numerical rate of mortality, cannot be placed upon an equality with that of 1849, as proved by the figures just quoted.

Such were the general results characterising different quarters of last year in regard to their respective position in the mortuary scale. With one or two exceptions, all years, besides 1849, the third quarter has generally proved the most healthy season in Great Britain. The greatest contrast, if compared with previous corresponding seasons, being that exhibited during 1845, when the total deaths throughout England and Wales during the parallel months, viz., July, August, and September, were only 74,872, being therefore 60,355 fewer fatal cases of disease than in the corresponding quarter of last year: hence showing a marked salubrity in the former period, the total mortality being then about half its recent amount. Considered, however, in the aggregate, the annual rate last year was 2·354 per cent., which makes ·088 above the average. In town districts the scale of deaths ranged higher than in country localities, the actual amount in the former being 2·816 per cent.; whereas, in the other, or rural districts, it was 2·026, or nearly $\frac{3}{4}$ per cent. lower; thus making an important difference in favour of rural populations.

According to the figures reported in a previous paragraph, the public health was such that the mortality of England and Wales during the first quarter of 1854 ranged somewhat below the average amount of last year, and especially much less than either during the corresponding periods of 1847 or 1848, it being under that in 1853 by

6271 deaths; thereby showing the first three months of last year were not unusually insalubrious. Descending, however, to particulars, it appears, from the reports heading this article, that the inhabitants of the south-eastern portion of England enjoyed an average amount of health. Nevertheless, in some places this was certainly not always the case; for instance, at Maidstone and Sandgate, scarlatina prevailed to some extent, and the deaths were in consequence augmented. The season proved also unhealthy in Tunbridge; whilst at West Ashford, an increase of deaths was caused by the prevalence of whooping-cough, typhus, and diarrhœa. In Portsea island, the mortality became also augmented, smallpox being prevalent; and at Southampton the deaths likewise exceeded the average, partly from variola; 26 deaths having occurred from that disease, then very prevalent in this town. Reading also experienced a greater number of deaths than in any preceding quarter; whilst at Windsor, the mortality similarly exceeded an average. The counties of Buckingham and Huntingdon enjoyed unusual exemption from fatal disease; but scarlatina prevailed in Peterborough, smallpox at Willington, Bedfordshire, and pertussis was fatal at Ampthill. Typhus prevailed at Weston and Carlton, in Cambridgeshire; although Ely and Newmarket were both more healthy than ordinary. The county of Essex exhibited an extraordinary high rate of mortality; many persons, especially infants, having died at Orsett, from influenza and bronchitis. Typhus was also very prevalent at Halstead. In Braintree, numerous deaths supervened from fever and whooping-cough. At Dunmow, measles and pneumonia rendered the mortality greatly beyond an average; whilst at Saffron Walden, measles, fever, and whooping-cough raged extensively.

From Suffolk and Norfolk, the sanatory reports were generally favorable: the mortality of these two counties having ranged below that of any similar quarter in previous years. Throughout the south-western parts of England, speaking generally, the same satisfactory condition of public health was noticed. Exceptions to this rule, however, occurred, as for instance, typhus proved fatal at Highworth, in Wilts; pneumonia and bronchitis prevailed extensively in Exeter; whilst St. Peter's parish, Plymouth, experienced an excessive rate of mortality, particularly from cholera and smallpox. At Liskeard, in Cornwall, pertussis caused many deaths, besides which disease, scarlatina and measles were very prevalent in Redruth. Yeovil, in Somerset, proved very unhealthy for young children, where, out of 60 deaths registered, 44 occurred in patients under 2 years of age, all of whom died from affections of the respiratory organs, and whooping-cough. The counties of Gloucester, Hereford, and Salop, on the whole were healthy; but Stafford, Worcester, and Warwick shires, exhibited an augmented mortality, compared with the corresponding quarter of last year. Scarlatina prevailed in Dudley, Stoke-upon-Trent, and in Wolverhampton. Measles proved severe at Bilston, variola at Droitwich; whilst in Birmingham, the deaths exceeded the average; the mortality being very great among young children, especially in the Lady Wood district, where, out of 189 fatal cases from all causes, 90 died under 5 years of age. Scarlatina attacked

many persons in the counties of Nottingham, Derby, and Lincoln; particularly in the place last named, where this eruptive disease assumed a more malignant character than usual, and proved exceedingly fatal. In one portion of this locality, 50 persons out of 94 deaths arose from that malady. In another district, it likewise raged severely, along with asthma, bronchitis, and pneumonia. In fact, throughout the entire city, there occurred a great increase in the total mortality during this, if compared with previous, quarters. The town of Nottingham was also very unhealthy, the deaths being beyond an average, even of several previous years. The same remark applies to Worksop and Southwell, where scarlatina likewise raged fatally. In Chesterfield, Bakewell, and several other towns of Derbyshire, this eruptive complaint was equally prevalent, and caused numerous deaths.

Some parts of Cheshire suffered much from similar causes. For instance, in the Marple district of Stockport, the mortality was nearly twice the average amount of corresponding previous quarters, scarlatina and typhus having prevailed to an unprecedented extent. In other parts of Stockport scarlatina was also exceedingly virulent, being the prevailing epidemic. In Runcorn, out of 97 deaths, 20 were caused by hooping-cough. Throughout most northern divisions of England, the chief feature, during the quarter now under discussion, appears to have been the prevalence of scarlatina, as also of measles in several districts; whilst at Wigan, the deaths were increased by colliery explosions, especially at Ince Hall, where 86 persons lost their lives thereby; consequently, forming one of the most fatal accidents of this description which has ever occurred. Otherwise, few circumstances worthy of remark were noticed, or, in the principality of Wales, which, as a whole, proved of an average salubrity.

During the three months of April, May, and June, the gross mortality ranged under that recorded in any other quarter of the year, as previously mentioned. In this favorable aspect, Kent occupied a prominent position; that county, as also Berkshire, having enjoyed more than usual exemption from any fatal disease. Hampshire, was, however, rather different; the deaths being somewhat, but not remarkably, in excess. Southampton continued to be affected by variola, as in the early part of this year; which, subsequently, however, abated. Portsea island also suffered much from smallpox; the disease having been propagated by mothers and nurses, according to the local registrar's report, purposely taking the children into infected houses. In the county of Hereford, the mortality ranged low; as also in parts of Cambridge; but it was rather high in Northampton, and Bedfordshires. Typhus prevailed in the parishes of Westbury and Finmere; whilst smallpox was very prevalent in Peterborough. In some districts of Bedfordshire variola was likewise very common, as for instance, at Luton, and Leighton Buzzard; being, however, chiefly met with amongst the lowest classes; and the victims in almost every case, were persons in whom vaccination had been entirely neglected. Some parts of Essex proved decidedly unhealthy, as, for example, Orsett; in which, scarlatina, ague, bilious fever, and

dysentery were prevalent; malaria, which infects this district, from the undrained Thames marshes, being unusually virulent. Suffolk and Norfolk experienced a reduced rate of mortality; although small-pox prevailed at Norwich, and in other districts of the latter county, where the poor and uneducated continue still extremely averse to having their children vaccinated.

Throughout the south-western portion of England, mortality ranged low, the number of deaths having fallen considerably. Nevertheless, some exceptional localities existed, such as St. Ives, and Marazion, in Cornwall, where measles were fatal to children; whereas, at Stogumber, Somersetshire, smallpox was very prevalent. Again, at Bath, diarrhœa and dysentery caused several deaths in the workhouse. At Wem, in Shropshire, scarlatina prevailed; and so severely in one family that the whole children, 6 in number, fell victims to that malady. Stoke-upon-Trent exhibited a mortality much above the average, chiefly from scarlatina; this disease being also common in Cheadle; whilst numbers died from measles at Wolverhampton, both these maladies having raged extensively. In Birmingham generally the deaths exceeded an average, especially amongst children; measles pneumonia, scarlatina, and pertussis, having been the most frequent and fatal diseases.

Similar to last quarter, Lincoln proved again unhealthy; scarlatina having been very prevalent, and in many cases fatal; measles was also common, but the augmented mortality arose principally from the former complaint. The same remark applies equally to several districts of Nottinghamshire, as, for instance, at Basford; where, malignant scarlatina and measles were epidemic; the first-named disease being remarkable for its very frequent termination in anasarca. Some parts of Derbyshire also suffered from scarlatina; but Cheshire and Lancashire enjoyed an average condition of health; although in Liverpool, the mortality was high, owing to the extensive prevalence of measles; which proved also fatal in some parts of Salford. Manchester seemed generally salubrious; but in Bolton and Bury the deaths were much below an average; this ameliorated state of public health being attributed to the mildness of the season, and, also, to great improvements recently effected by public authorities, in carrying out sanatory measures. The mortality recorded in Yorkshire was considerable; Leeds having suffered severely from measles; the total deaths by all causes being nearly one fourth more than usual. Scarlatina prevailed much at Rotherham, Thorne, Selby, and also at East Stamford Bridge; where, the deaths from all causes were double the usual number. The same eruptive complaint likewise raged to some extent in the North Riding; whereby considerable mortality ensued, chiefly among young people. In the northern parts of England, the amount of deaths did not differ much from an average rate, although Kendal suffered from variola. On the other hand, throughout Wales, the aggregate deaths were rather beyond the usual number; scarlatina having prevailed at St David's, and Abergavenny, with measles at Cardiff; where out of 262 deaths by all diseases, 68 actually arose from the last-named malady; and, although typhus prevailed more than ordinarily in the neighbourhood of Llanrwst, few cases terminated fatally.

During the third quarter of 1854, ending in September, the mortality, as already mentioned, proved unusually great; 21,607 persons having died beyond the total number registered in the corresponding three months of the preceding year; the rate having, therefore, risen to 2.425 per cent. annually, or 285 more than the average; the largest proportion however being reported from the chief towns. Throughout most of the south-eastern parts of England, the deaths exceeded an average, chiefly in consequence of cholera; although Sussex and Hampshire, with the exception of Portsea Island, and Southampton, scarcely exhibited an increase; smallpox having proved very fatal in the first-named locality. In the marshy districts of Essex, north of the Thames, a high mortality prevailed, principally from cholera, as also at Ipswich; but this was the only district of Suffolk that suffered considerably. The deaths were numerous in Yarmouth on the Norfolk sea-coast; and in Norwich, they amounted to 643 from all causes instead of 370 during the corresponding quarter of the previous year.

In the south-west, such as at Salisbury, Dorchester, and Exeter, some increase in the deaths were recorded; but in several sub-districts of Plymouth, the mortality ranged below an average. It was also under, or about the usual rate, in the counties of Hereford, Gloucester, and Salop; whilst in Birmingham, diarrhœa proved exceedingly prevalent and fatal. In Walsall, the mortality was also very great, the deaths being double the average of corresponding quarters; chiefly from measles, scarlatina, whooping-cough, and diarrhœa. The counties of Leicester, Rutland, Nottingham, and Derby, were generally healthy; the number of deaths being below an average; whilst in the low districts of Lincolnshire, the mortality exceeded any ordinary rate, being about one third more than previously: seeing it rose from 1581 to 2092 within the county. This increase was occasioned by cholera at Grimsby, scarlatina and diarrhœa at Stamford, malignant scarlatina at Bourne, as also at Horncastle; and cholera in Holbeach; besides which, Gainsborough suffered much from scarlatina, where this disease proved very fatal amongst young persons.

Cheshire experienced less than the average mortality, excepting Runcorn and Wirrall; cholera and diarrhœa having been very prevalent in the former place, and chiefly during September, when all the cholera deaths occurred; generally in localities where the sewerage was deficient, houses ill-ventilated, and with privies close to the doors, in many instances. At Liverpool, the total deaths were more numerous than during several previous corresponding quarters, having amounted to 4563 instead of 2701 in the former autumnal season, this increase being referable to epidemic cholera. In Salford, diarrhœa caused numerous deaths among children; many of whom, it is stated, had no medical attendant. Diarrhœa was also very prevalent in various districts of Manchester, and in some localities almost exclusively, among children, as, for instance, in Deansgate sub-district, where, out of 81 deaths by diarrhœa, only 2 were adults; hence, showing the infantile mortality by this disease to be frightful. A somewhat similar observation applies also to the London Road

division, in which district, out of 289 deaths by all causes, about one fourth arose from diarrhœa; 47 of these cases being less than one year, and 17 under 2 years of age. In Lancaster, the deaths were likewise above an average number, owing to cholera in Poulton, and typhus at Heysham.

Throughout Yorkshire, the mortality ranged about an ordinary amount; although Sheffield suffered, to a certain extent, from the prevailing epidemic. In Bradford, the deaths were also considerably more than usual, owing principally to scarlatina. Hunslet likewise exhibited an augmented mortality; measles, diarrhœa, and dysentery having proved fatal to many children; since, out of 195 deaths from all diseases, 60 victims were less than 12 months old, and 52 were aged one, and under two years.

At Kelmsley, in the North Riding, scarlatina proved very prevalent and fatal, whilst the deaths in Northallerton exceeded in number that of the last four years. In Durham, public health was also far from satisfactory, the deaths being greatly above an average amount; diarrhœa, scarlatina, and measles, having proved very prevalent and fatal. Monkswearmouth likewise manifested a similar condition, the deaths being far above an average, or about one-half greater, arising, it is reported, from the want of clean, properly ventilated rooms, and owing to the accumulation of filth in confined yards; whilst the thorough scavenging of back streets had been neglected. In Monmouthshire, measles, typhus, and scarlatina, caused considerable mortality; whilst in Wrexham the latter disease was also very prevalent, having caused nearly half the total deaths in one of its districts. Again, at Llanrwst, although this affection proved very common in its vicinity, the number of fatal cases was small comparatively. A curious fact respecting the same epidemic further deserves record, namely, measles spread to almost every house in the neighbourhood, travelling almost constantly from a western to an eastern direction, and sparing but few juniors, although not many suckling infants contracted the malady.

Throughout the last three months of 1854, fewer deaths occurred than either during the previous, or first quarter of the year, as already reported. Nevertheless the mortality rose above an average in some districts. Thus, in several parts of Kent, such as Gravesend and Tunbridge, scarlatina proved of unusual severity. In Portsea island the fatal cases were also increased, scarlatina and fever having been very prevalent; whilst in one sub-district of this part of Hampshire, namely Landport, out of 267 deaths by all causes, 71 arose from scarlatina, the victims being chiefly children. In Hendon and Edmonton, Middlesex, scarlatina proved also very prevalent, and the deaths numerous, having assumed in the latter locality a very malignant type, and in almost all cases dropsy supervened. Royston, in Hertfordshire, suffered much from variola; and in Wycombe the deaths reached considerably above an average, principally in consequence of cholera and scarlatina. Oxford was also far from healthy, cholera and scarlatina having proved both prevalent, and fatal in many instances, 80 deaths by each of those diseases being reported during five months. Kettering, in Northamptonshire, likewise ex-

hibited a striking increase of mortality, or upwards of double that reported during the corresponding quarter of last year: which result was due to scarlatina and measles; those diseases having then become unusually fatal among children. Some localities of Bedfordshire suffered severely from scarlatina maligna, typhus, and smallpox; the latter disease affecting Luton, the former Biggleswade.

Cambridge was also unhealthy, the deaths being much above an average, owing to scarlatina and smallpox. Scarlatina likewise proved very prevalent and fatal among children at Newmarket; whilst at Wisbeach the mortality ranged above an average, arising from that disease and typhus. Cholera prevailed fatally in some districts of Essex; and in Ipswich the mortuary rate was augmented, chiefly by measles and smallpox; besides which typhus and scarlatina were prevalent in several parts of Norfolk. In Amesbury and Lisbury, Wilts, the last-named malady raged also very fatally, three children in one family having died thereby. Shaftesbury and Blandford, in Dorsetshire, both exhibited an augmented mortality, principally from Scarlatina; whilst in Weymouth the deaths were excessive, diarrhœa, pertussis, and variola, having been very prevalent and fatal. In Plymouth, the fatal cases exceeded an average, principally from scarlatina, diarrhœa, and smallpox, the former malady having also carried off many children in Stoke Damerel. Truro experienced nearly double the average number of deaths, many children having died from whooping-cough; typhus also prevailed to a great extent; but Redruth, likewise in Cornwall, was healthy. Taunton suffered from an augmented mortality, owing to scarlatina in a severe form; pertussis and typhoid fever being at the same time prevalent. Bath, on the other hand, was distinguished for its healthiness. Bristol, with the exception of cholera in some of its districts, was also healthy; but Clifton proved the reverse, in consequence of diarrhœa and cholera, which caused many deaths. In one family of 8 persons, dwelling near the River Avon, all were so attacked, whereby both parents and 4 children died. In Wem, the deaths, as before, again ranged considerably above an average, occasioned by measles, which disease, as also scarlatina made the mortality rather greater than usual in Wellington. Uttoxeter, in Staffordshire, proved unhealthy, the deaths being above former rates, in consequence of scarlatina, which raged severely and fatally. The sanatory condition of this town being further rendered bad from slaughterings, as also by the butchers boiling down their offal, and keeping it in stock to corrupt and putrefy, for the purpose of feeding swine, whereby the air became, it was said, constantly tainted. Wolverhampton suffered considerably from diarrhœa and cholera, 68 deaths, out of a total mortality of 215, having arisen from these two diseases in the sub-district of Willenhall; nearly all the cases being among poor persons dwelling in very filthy parts of this township.

Walsall and Dudley both exhibited a mortality above the average, owing to fever and cholera, especially in the latter town, where, in one sub-district, out of 369 deaths by all causes, 87 arose from cholera and diarrhœa. A similar remark applies to Worcester; and at Coventry the mortality was also in excess, scarlatina, measles, and

bronchitis having affected residents with considerable severity. Throughout many districts of Lincolnshire, scarlatina also prevailed with remarkable severity, numbers of persons having died by this epidemic, which often assumed a highly malignant character. Indeed, judging from the various official reports, this malady seems to have raged almost like a pestilence, especially amongst town populations. The same disease likewise proved very fatal in East Retford, at Bersford, in the county of Nottingham, and at Ashborne, in Derbyshire, where it killed many children. In Liverpool, the deaths were increased, chiefly from cholera and diarrhœa, numerous such cases having occurred in the workhouse. Prescott also experienced an augmented mortality, cholera, and especially typhus, having proved very severe in the St. Helen's district, 145 fatal cases being reported by the latter disease out of 350 deaths from all causes.

Like many other localities, scarlatina raged with great virulence and fatality in Chorlton, as also at Salford; and in Manchester this severe epidemic malady was likewise very prevalent, being often of a malignant type, and exceedingly rapid in its progress. Typhus and scarlatina prevailed in some parts of Blackburn, and also in Preston, where the former disease occasioned many deaths. Bradford was generally healthy, the mortality being below an average; excepting in the sub-district of Thorne, which suffered much from measles and scarlatina. The latter disease was equally prevalent in other divisions of Yorkshire, as at Dewsbury, Barnsley, Penistone, Ecclesall, Brierlow, and Thorne, in each of which places the mortality was in excess; whilst at Doncaster, measles often proved fatal. In Stockton-upon-Tees, the deaths were considerably above an average, measles, scarlatina, and typhus, having prevailed extensively. In Durham a great amount of sickness was also experienced, measles, fever, and scarlatina having carried off many victims: whilst cholera occurred in the colliery district of Willington. Again, in Easington, Houghton-le-Spring, Gateshead, and Chester-le-Street, measles were prevalent, being often fatal, and frequently followed by inflammatory pectoral affections. Lastly, Newcastle suffered considerably from this complaint, accompanied with pneumonia, which was also very prevalent in Tynemouth. Scarlatina, on the other hand, proved very rife in Penrith and Cockermouth, where the number of deaths were double the average. Appleby was also unhealthy from the prevalence of scarlatina; whilst measles raged very fatally amongst children in Whitehaven. Similar to events in the north of England, both these eruptive maladies now named prevailed as epidemics throughout the principality of Wales, especially at Wrexham, Hollywell, Monmouth, Newport, Crickhowell, and Cardiff, in all of which localities the deaths exceeded an average; whilst typhus proved frequent, although not fatally, in Llanrwst; but at Brecknock the mortality was nearly double, owing to a severe visitation of cholera in the filthy, ill-drained district called Baileyglaes, which forms part of St. John's parish, thereby showing that here, as elsewhere, this epidemic always selects the most insalubrious situations.

Viewed generally, the sanatory condition of England during the year 1854 seems to have been very far from satisfactory. Two

features were, however, highly prominent; first, the great prevalence of scarlatina throughout the country, which caused many deaths; and, secondly, the recurrence of cholera in a very severe form during the months of July, August, and September. The total deaths by cholera during this quarter being 15,587, and by diarrhœa 11,135; thus making an aggregate of 26,722 from these two epidemic diseases. The late outbreak consequently exhibited less intensity than in 1849; and although the fatal cases by diarrhœa have been recently as numerous, the actual deaths from cholera were 28,234 fewer than during the same three months of that year. Hence the mortality from both maladies was under one-half compared with the number in 1849, and shows the greater mildness of the late attack, seeing the total deaths by cholera and diarrhœa amounted to 54,472 during the corresponding quarter of that year. Speaking generally at present, it may be stated that cholera occurred in every county of England excepting Westmoreland, Hereford, and Rutlandshires; but many districts escaped, whilst a few, such as Merthyr Tydvil, in South Wales, suffered severely. Diarrhœa caused numerous deaths in Manchester, Birmingham, and other districts, where few fatal cases of cholera were reported to have occurred, although it is suspected by impartial observers that a majority of the above instances registered as diarrhœa were modifications of choleraic disease. This important question requires careful investigation, and if the suspicion implied is unfounded, it should be disproved; as heretofore, Birmingham has always been considered to have escaped any visitation of cholera, which caused great devastation in many other towns, whilst it was said to have spared this favoured central, and usually very healthy, although populous, locality.

Liverpool was also attacked by epidemic cholera; but not nearly to the same extent as in 1849. During the third quarter of that year, 4545 persons died by cholera, and 811 by diarrhœa; whereas, in the corresponding three months of 1854, cholera had only 953 victims, and diarrhœa 695; the deaths by the former malady being only one fifth its previous rate; whilst, from the latter disease, the mortality was less by one seventh. Taking every circumstance into consideration, the public ought to feel thankful that the recent visitation proved so comparatively mild; and if contrasted with that which afflicted other countries also during last year, Englishmen have additional reasons to be satisfied, and even grateful, the epidemic did not become worse. For instance, in France, about 130,000 persons were carried off by cholera in 1854; and as the population of that empire is nearly double the number in England and Wales, the deaths by that malady, to reach an equal ratio, ought to have been twice their recent actual amount, or 65,000. In fact, the mortality from cholera in England was only half the rate registered in the former country, proportionate to its population. This instructive and important truth ought therefore to become a source of gratulation; and seeing residents in Great Britain have not experienced such an extensive mortality from the late epidemic, as their less fortunate neighbours, whilst commiserating the calamities of other sufferers, whatever may be their creed or country, public authorities ought more assiduously to promote every measure which may either prevent, or tend to ameliorate, the effects of future similar visitations.

Analogous to the results observed throughout England and Wales generally during the past year, the mortality recorded in London during 1854, exceeded that met with in any former period, since a correct registration of deaths was established. The only approach in point of numbers being 1849, when cholera likewise prevailed epidemically in the metropolis. During 1854, 73,699 persons died from all causes; whereas, in the first-named year, the numbers amounted to 68,432; thus making an increase of 5,267 in last year's mortality. Compared with 1853, the excess was 12,495 deaths; 61,202 fatal cases of every description having been then registered. With reference to season, the largest mortality occurred in the third quarter of 1854, which includes July, August, and September, when 24,870 deaths were recorded, this result being owing to the prevalence of cholera and diarrhœa; whereby, 13,943 persons fell victims. The next most fatal period was the last quarter, during which, 17,238 deaths by all diseases were reported. The first three months of last year occupies the third position in regard to mortality, 16,534 individuals having died during that time. Lastly, the comparatively healthiest season in London was the quarter ending on the 1st of July; seeing only 15,055 deaths were then recorded; being 9,815, or nearly 40 per cent. fewer than during the quarter immediately following. Such were the general results observed throughout the metropolitan districts, in the year terminating on the 30th of last December. To account for, or at least, to discuss this interesting question, will be briefly attempted in subsequent paragraphs.

The diseases which exhibited an augmented mortality first merit notice. Amongst these, after cholera and diarrhœa, which will be investigated afterwards, scarlatina occupies certainly the most prominent position. By this eruptive malady, 3439 persons—chiefly children—fell a sacrifice; of which, the largest proportion, viz., 1297, or nearly 38 per cent. of the whole, occurred in the months of October, November, and December. By smallpox, a considerable comparative increase was also recorded; the deaths from that often loathsome disease being 676, in place of 217 the previous year. Rheumatic fever and rheumatism also proved more fatal recently; 690 deaths having been thereby produced, instead of 445 during the preceding twelve months; and here again, the majority were reported during cold weather. Measles likewise showed an augmented rate of mortality, 1399 human beings having thus perished, compared with 1007 during 1853, by which disease, however, the greatest proportion, or 476 deaths, occurred in the second quarter.

Croup proved also more fatal, the comparative numbers being 488 against 374 the previous year. Tabes mesenteria likewise caused death in a greater number of individuals; the respective amounts being 1099 to 965. Pericarditis occupied a similar position, the deaths recently having ranged 130 against 94. Erysipelas also occasioned more deaths; 448 having arisen from that malady, in place of 324. In addition to which, cephalitis must be quoted; seeing 635 persons recently died by this affection, in place of 573 fatal cases similarly designated; and lastly, from the same category, with some minor exceptions unnecessary to specify, laryngitis should not be

omitted; 329 deaths by that disease having been registered, instead of 239 in the former period.

Various maladies which last year exhibited a diminished rate of mortality, next come under observation. Of these, the most marked was bronchitis, whereby, 4549 deaths were recorded, against 5223 during the previous period. Phthisis ranks next, the numbers recently being 7107, in place of 7502 during 1853. Then pertussis, the relative amount being 2471, against 2652 in the former year. Epilepsy was also less fatal; the rate being 377 instead of 413. A similar remark applies to insanity, 115 persons having died by that form of disease, in place of 132; whilst mortification, hydrocephalus, aneurism, disease of the heart generally, enteritis, peritonitis, and one or two other maladies, proved likewise not so lethal of late as previously, although the difference observed was inconsiderable. Asthma must, however, be added to this list of diminished mortality, 661 deaths having been recorded, in place of 833 during the preceding twelve months.

With reference to another class, or violent deaths, some curious and interesting facts may be quoted, which are also satisfactory in regard to numbers. Thus, fewer persons lost their lives from burns and scalds, than in 1853; the respective amount by such accidents being 274 cases, instead of 309 in the previous year. By hanging and suffocation, 234 against 279. By drowning, 344 in place of 355; and lastly, 655 unfortunate human beings had their mortal existence brought to a premature close, in 1854, by fractures, against 738 similarly killed during the twelve months preceding. In connexion with the subject now under investigation, viz., deaths caused by violence, it is a true, however much to be deplored fact, that, last year, 1789 inhabitants of London lost their lives by accident, or in a violent manner; therefore making a greater number than have often died in battles reported great or glorious; and which frequently occasioned much public sympathy, nay, even unbounded gratulation for the truly brave soldiers who then bit the dust, whilst fiercely engaged in mortal combat with their fellow creatures. Take the most recent example—the Crimea; where, since the English army first landed, up to the 15th of last month, or after about six months severe fighting with their opponents, the total persons killed during that period, as stated in official returns, amounted to 1360 men and officers included; which gives 429 fewer fatal casualties, than all the violent deaths registered in London the past year. But such is hero-worship! and although many of the 1789 human beings, recorded to have perished in the metropolis, through violent means, were, perhaps, fathers of families, or industrious workmen supporting themselves and dependants by their honest labour; numbers being likely also well behaved christian men; nevertheless, these numerous deaths by violence excited, in all probability, very little public notice, or had no sooner occurred, than the individuals were wholly forgotten, unless by immediate relatives, to whom the loss was irreparable.

Notwithstanding the large number of deaths, and varied diseases which produce every year in London extensive mortality, it is remarkable that by many maladies the fatal cases annually recorded

are often very uniform in amount. This coincidence becomes the more interesting, taking into account the immense metropolitan population, and varied occupations, with numerous other circumstances characterising its inhabitants. Amongst the chief affections exhibiting this peculiar feature, occurs scurvy; whereby, 54 persons died in 1854, instead of 55 the year before. Ague, 24, in both years; typhus 2669, against 2649; mortification, 189, to 186; scrofula 446, to 443; apoplexy, 1323, to 1339; pneumonia, 3976, to 3938; quinsy, 56, in each year; gastritis, 76, to 79; ulceration of intestines, 144, to 140; hernia, 148, to 149; ileus, 162, to 161; intussusception, 47, to 46; hepatitis, 213, to 215; ischuria, 10, in both periods; cystitis, 37, to 36; and stricture of urethra, 63, to 65. Lastly, omitting several other illustrations which might be included in the same category, intemperance deserves special notice, seeing 83 persons fell victims to this detestable habit, against 88 the previous year; thereby proving that, even from vicious propensities causing death, and after living in a state of degradation, among such inveterate criminal votaries, there reigned a singular uniformity.

Irrespective of minor peculiarities, the great distinguishing feature of 1854, in reference to the sanatory condition of London, was certainly the invasion of cholera last autumn. By this disease, 10,708 persons died during the year; of whom 3906 occurred in August, and 5637 in the following month; whilst very few deaths, it deserves notice, were so recorded either previously or afterwards. The period, however, when this epidemic prevailed most fatally, was in the early part of September; during seven days of which, ending the 9th, 2050 were recorded from cholera alone.

Next week, the cholera deaths decreased to 1549; but during the first seven days of October, the numbers were only 411; and by November, the epidemic had nearly ceased.

Viewed in the aggregate, cholera caused more deaths south of the Thames, than in districts north of that river; 5660 persons having died in the former division of the metropolis, during the 15 weeks ending October 21, that being the period when this malady raged with its greatest intensity—whilst 4880 deaths by a similar cause were recorded in the northern portion. If calculated according to population, the ratio amounted to one in every 109 inhabitants of the southern districts, against one in 358 residents north of the Thames; hence, making the proportion in the former, treble that in the latter division of London. Throughout particular districts of both these metropolitan divisions, the mortality, however, varied considerably. In St. Olave's parish, Southwark, the ratio was 1 death by cholera in every 49 inhabitants. In St. James's, Bermondsey, one in 52; whilst from Dulwich, having 1632 inhabitants, not one fatal case of cholera was recorded. Again, in the Berwick-street sub-district of St. James's parish, Westminster, the deaths by cholera, amounted to 1 in 54 inhabitants; but in the sub-district of Golden-square of the same parish, the ratio reached to nearly one cholera death in every 52 residents. Contradistinguished to which result, it deserves mention, as being both highly instructive and curious that, in the Hanover square sub-district of St. George's parish, immediately adjoining the

above-named portions of St. James's, then so severely decimated by cholera, the proportion of deaths by that epidemic was only one to every 1123 inhabitants; even although the elevation above Trinity high water mark, to which, recently so much importance has been attached, was under that of the former localities.

Similar remarks apply very forcibly to the St. James's-square sub-district of that parish, the mortality being not more than one in every 637 residents, notwithstanding its high-water level is much below the other two divisions of the same parish, and many persons there dwell in ill-ventilated courts, or insalubrious alleys. That a low elevation of soil, or the general character of its population, cannot constantly be held as powerfully operating influences, further appears by the facts that, in Saffron-hill district which is known to be a low-lying filthy neighbourhood, and generally inhabited by the lower classes, the mortality was reported to be only one death by cholera, in every 1979 inhabitants, whilst in All Souls', Marylebone, the ratio reached one in every 191 residents, although the high-water elevation of this district ranged almost double that of the former locality; whereas in the adjacent Cavendish-square division, but of rather lower level, the rate was only one fatal case by cholera in every 1632 persons then resident.

Many other interesting points illustrating the late epidemic in London, might be discussed, but it seems superfluous, since most have already been brought before the profession by various authors. One peculiar feature will therefore be only briefly adverted to at present; namely, the great similarity noticed in the atmospheric phenomena prevalent during the first week of September, 1849, and of last year; in both of which periods, the disease raged with its greatest intensity. In each of these weeks, speaking generally, the atmosphere was still, very little wind prevailing, the air was always dry, and the weather often felt languid. Great fluctuations of temperature existed betwixt night and day-time, the variation being frequently from 30 to 35 degrees. The sun had great power, although clouds and fog intervened. No rain fell, and the electricity was positive, having moderate tension. In short, with very slight variations, the weather seemed almost identical during both seasons now quoted; and it may be further stated as curious, that, in 1832, when cholera also prevailed throughout London, somewhat analogous atmospheric features were observed, particularly in regard to the great coldness experienced at night, compared with the day temperature. During the most fatal week of 1854, the highest temperature was 81·2, the lowest being 43·1, hence, showing the entire range to have varied 38·1; which actually occurred on Monday, the 4th of September, when deaths by cholera were exceedingly numerous.

However severe the epidemic may have proved throughout England during last autumn, it raged even more fatally in many continental towns and districts. For instance, amongst the inhabitants of Paris, cholera caused treble the number of deaths in proportion to its population compared with London; whilst in Messina, the rate of mortality ranged much higher than in any other locality throughout Europe. This large Sicilian city lost upwards of 9000 persons by the epidemic,

out of about 40,000 individuals then remaining : the total inhabitants being usually about 80,000 ; but of these, more than one-half had fled through fright, immediately this disease appeared. Like the outbreak in London, the malady proved most fatal in Messina at the end of August and beginning of September ; from 13 to 1400 persons having died respectively on the 27th, 28th, and 29th of the last-named month. Soon afterwards, the scourge became much milder, especially subsequent to a heavy shower of rain, which fell about the middle of September. The mortality then rapidly receded to 15 or 16 per diem, and speedily disappeared. As in the British metropolis, when cholera prevailed in its greatest virulence at Messina, the weather continued also very hot. The sun seemed a furnace, the air was still, and exceedingly dry, whilst other atmospheric phenomena remained very similar ; but immediately these changed, the epidemic abated in this devoted city, which, nevertheless, long continued to be overwhelmed by grief and desolation.

Before concluding the present cursory observations respecting the sanitary condition of England during last year, one subject of great vital interest to the public, as also worthy of notice by members of the medical profession, deserves even more than some passing remarks, namely, the recent prevalence of smallpox amongst the English community, and the important relative question of vaccination. That variola prevailed to an unusual extent, not only in London, but throughout the country generally, fully appears by previous statements ; and, further, it is evident that great unwillingness still exists, particularly throughout the agricultural population, to have their children protected by cowpox. These lamentable truths seem too well authenticated to require additional confirmation. Nevertheless, a few brief extracts from official reports may be quoted, illustrative of the prevailing prejudices. For example, these documents say, "Many parents refuse to have their infants vaccinated. Out of 229 notifications served in one country district, only 51 certificates of successful vaccination were returned. Vaccination is often much neglected by the labouring classes. Several are prejudiced against it, others negligent. Cowpox is very unpopular, owing to the mistaken notion that other diseases are thereby produced. Some parents become very violent when served with notices requiring them to have their children vaccinated. Others express great dislike to the operation, and will not allow it to be performed. Fathers do not have the birth of their infants registered, in order to prevent them receiving notices respecting vaccination ; and some will even remove into other districts, to avoid detection more effectually. In various places, not one child in four is vaccinated successfully. Thus, in a sub-district of Ipswich, out of 485 notices served, only 111 reports of properly performed cow-pox were returned ; whilst, from some parts of Staffordshire, not even one successful case of vaccination is reported, in six births registered." Throughout Lincolnshire, Lancashire, Essex, Suffolk, and numerous other provincial divisions of England, it may be confidently asserted that the same unsatisfactory condition of matters prevails, with reference to the propagation of cowpox, amongst persons belonging to the ignorant and labouring classes of the popu-

lation, which seems both astonishing and most lamentable, notwithstanding the prophylactic virtues of this invaluable blessing are undoubted, and prove so highly beneficial to the entire community.

Although it must be admitted, much inveterate ignorance and strong prejudices unfortunately often pervade the cross minds of uneducated individuals, which are greatly adverse to the extension of cowpox, another important fact should not be concealed, that frequently when vaccination is said to have been employed, the operation was sometimes so carelessly performed, or the lymph proved so inefficient, that it became utterly futile. Hence, the subject thus erroneously believed as protected against variola, really remained in even a much worse state than previously; because persons thus treated, always afterwards impressed with a false security, thought it superfluous to adopt any precautions, should they be ever exposed to infection. In various parts of Wales, as also in some agricultural portions of England, vaccination seems to have been carelessly effected, the person being only, as it is said popularly, "cut for cowpox," without a competent judge subsequently ascertaining and reporting whether the genuine disease was really propagated. Amongst the different localities to which these remarks apply, while Essex ranks bad, Suffolk may be particularly mentioned, since, on unquestionable authority, it can be truly asserted that vaccination appears very badly indeed performed in the latter county, whereby subsequent dangerous and fatal attacks of smallpox often ensue; and, in this respect, compared with many other provincial districts, Suffolk stands out in marked discreditable contrast. In support of this opinion, entertained also by other observers, the admirable registers so carefully kept at the Smallpox Hospital, near Highgate, of all patients there admitted, may be confidently appealed to as conclusive evidence. This important subject is therefore now specially noticed, in order to attract the attention of medical practitioners, and parochial authorities, particularly to the county last named, who will, it is earnestly hoped, take efficient measures, and that speedily, to remedy such remarkable defects in future.

Several benevolent efforts have recently been made by Government and individuals, to disseminate genuine cowpox throughout the country, whilst Acts of Parliament have, at various times, been passed to promote an object so exceedingly desirable. The latest measure adopted for this purpose, from the official reports of some local registrars, appears, however, in different places, to have proved hitherto inefficient; and in others, the Act, they state, cannot be worked. Again, the public will not be always compelled by Act of Parliament, even gratuitously, to accept the great benefits conferred by vaccination. According to mature convictions long entertained by the writer of this report, instead of making vaccination compulsory, or only in the manner heretofore attempted to be carried forward, if a law were passed which rendered it hereafter imperative, if not retrospective, for every person employed in the public service, or who received pay from Government in any form, or from chartered corporations, or performed any legal act, or who should be appointed to an office entailing upon occupants responsible duties towards the

community, then in every case, prior to filling such appointments, the party should always have been *properly vaccinated*. If this was made the invariable practice, a very great step in advance would at once be accomplished.

Take, for example, the Inland Revenue Department, the navy, or the army, or even the metropolitan police, in which numerous body many constables have never been properly vaccinated. Before being admitted into this force, as also prior to any one accepting public employment which entitles holders to receive emolument from the state, uncontrovertible proof, with characteristic bodily marks, should be produced of having previously undergone genuine vaccination. In Prussia, this system is enforced with the greatest benefits, where parties cannot even marry, or perform numerous other important acts, without having first been correctly vaccinated, and this plan works admirably. Were a somewhat similar system pursued in Great Britain, or should the idea promulgated in a previous paragraph be legally sanctioned, instead of compelling Englishmen to vaccinate their children under the fear of penalties, if John Bull was induced to do so, by the hope of future benefits to his offspring, much more important results to the public would assuredly ensue. The views now expressed (although many cogent arguments might be easily stated in their support), need not be further discussed on the present occasion. Nevertheless, the question here mooted, deserves investigation; and as some amendment in the existing laws for promoting vaccination seems very much required, the proposal above shadowed forth, even imperfectly, should be brought before the legislature for deliberate consideration; and, if approved, rendered by statute every where imperative.

The application of Electro-chemistry to the treatment of Saturnine and other forms of Chronic Metallic Poisoning. By MM. POEY and MAURICE VERGNÈS. ('Medical Times and Gazette,' 3d March, 1855.)

In 1832, Dr. Coster, and in 1833, M. Fabré-Palaprat, following a suggestion of Becquerel, employed voltaic electricity to *facilitate the introduction of certain medicines into the body*, but their experiments excited little attention. M. Fabré-Palaprat appears also to have discovered—though Dr. Pareira failed to verify his statement—that a substance might be carried *through* the body by this means. He bound on one arm a compress, moistened with a solution of iodide of potassium, and covered by a platinum disk, connected with the negative pole of a voltaic battery of thirty pairs of plates. On the other arm was placed a compress, moistened with solution of starch, and covered by a platinum disk, connected with the positive pole of the battery. In a few minutes the starch acquired a blue tinge, showing that the iodine had been transported from one pole to the other. MM. Poey and Maurice Vergnès apply the same means to the extraction of various metallic substances *out of* the body, and if experience corroborates their statements, it is not easy to over-

estimate their importance. At any rate, the statements appeared of so much importance to M. Dumas, as to lead him to lay them before the French Academy of Sciences.

In these experiments the patient is placed in a large metallic bathing tub, which is properly isolated from the ground. In this tub he sits upon a bench, with his legs stretched out, and water is poured in until it comes up to his neck. The water is slightly acidulated, to increase its conductivity; and the acid varied according to the cases. Nitric or hydrochloric acid is used for the extraction of mercury, silver, or gold; sulphuric acid for that of lead. This done, the negative pole of a pile is brought into contact with the sides of the bathing-tub, and the positive pole placed in the hands of the patient.

On completing the circuit, the electrical current precipitates itself through the body of the sufferer, penetrates into the depth of his bones, pursues in all the tissues every particle of metal, seizes it, restores its primitive form, and, chasing it out of the organism, deposits it on the sides of the tub, where it becomes apparent to the naked eye.

In this discovery, accident has played a part. One of the inventors—M. Maurice Vergnès—occupied himself with galvanic gilding and silvering. His hands being in continual contact with solutions of nitrate and cyanuret of gold and silver, became covered with ulcers in consequence of the introduction of metallic particles. One day he plunged the diseased organs into the electro-chemical bath, at the positive pole of the pile; and, after a quarter of an hour, to his great surprise, a small plate of metal brought into contact with the negative pole became covered with a thin coating of gold and silver, the coating being derived from his own hands. This occurred in April, 1852.

In subsequent experiments, a large battery was used, consisting of 30 pairs of plates. Each pair has a diameter of 40 millimetres, and is 217 millimetres high. The number of the pairs to be used at the beginning of the operation depends upon the temperament of the patient and the nature of the malady. Thus a delicate and very nervous person is at first submitted to the action of ten or twelve pairs only, and every five minutes the number is increased. A person of a sanguine or lymphatic temperament is able to endure a greater number of elements. The same observation applies to the quantity of acid employed in the bath, less being required for a nervous than a lymphatic constitution.

The metallic atoms extracted from the body deposit themselves on the whole surface of the tub; but they are more abundant opposite to the part of the body where the metal was lodged. The size of the metallic spots varies considerably; some are microscopical; others have the dimensions of a pea; those of the size of a pin's head are very common. "I have seen," says M. Poey, "after the first bath of a person who complained of pains in the arms, from having taken mercury, the contours of the arm perfectly drawn upon the metallic plate by the deposits of metallic atoms that without doubt proceeded from the suffering member."

We shall terminate our article with an experiment made before the members of the Faculty of Medicine of the Havana.

A patient had undergone during a whole week, an external mercurial treatment (frictions with mercurial ointment). He had then taken several lukewarm baths, and it could not be supposed that any mercury still remained attached to the skin.

He was put into a water-bath mixed with muriatic acid. After having remained in it for five minutes, some of the water was taken out, and afterwards analysed by M. Baraceca, who found no traces of mercury in it.

The circuit was then closed; and, after the electric current had acted for about an hour, a new sample of the water was taken. Mixed with an alkaline sulphuret, the water became black; and a piece of copper having been dipped into it, gave sure signs of the existence of a small quantity of mercury. Thus the water of the bath now held mercury in solution.

During the experiment, a perfectly clean piece of copper had been placed at the negative pole. When it was taken out of the water, towards the end of the operation, its yellow-greenish colour not only testified an action in which mercury had taken a part, but small white spots were scattered over the surface, one of which, of the size of a square line, was very brilliant, and of a mercurial whiteness. The plate having been heated underneath, the spot disappeared, and the original colour of the copper was restored—a fact which proves that the spot was mercurial.

II.

REPORT ON THE PROGRESS OF SURGERY.

Lettsomian Lectures on the Physical Constitution, Diseases, and Fractures of the Bones. By JOHN BISHOP, F.R.S. (London, Highley, 12mo, 1855.)

Three lectures, founded by the late Dr. Lettsom, are annually delivered before the London Medical Society. In the session 1854-55, Mr. Bishop being appointed to deliver these lectures, chose for his subject a most important series of surgical diseases, and one to which he had devoted great attention. The diseases of bones are so common, as to be daily under the notice of the surgeon, and, in fact, constitute a very considerable part of surgical practice.

The first lecture is devoted to the consideration of the physical properties of bone, the influence of the relative proportions of the organic and inorganic constituents on its strength, elasticity, and flexibility; to the softening of bones in rickets, and mollities ossium; to caries and psoas abscess. In this lecture the author proves, by a well-devised series of experiments, that the physical properties of bone do really depend on the relative proportions of earthy and organic matter,—in opposition to the theory of Stark, adopted by Stanley, Paget, and other writers, who, finding that the mean proportion of inorganic to organic substances was as 66·39, 33·91, or nearly as 2·1, while the hardness, strength, flexibility, toughness, and other physical properties varied considerably in different bones,—draws the conclusion that these physical properties depend not on the relative proportions of these constituents, but on differences in the organic structure of bone. The primary proposition of Stark, however, is itself incorrect, since it is proved by the analysis of Von Bibra that the relative proportions of the inorganic and organic constituents do vary in different bones of the same person to a sufficient extent to influence their hardness, strength, and elasticity. Thus, while the femur, tibia, fibula, ulna, radius, metacarpus, and occipital bones of a woman twenty-five years of age contained between 68 and 69 per cent. of earthy matter; the humerus contained between 69 and 70; the clavicle 67·57; the scapula, 65·38; a rib, 63·57; the innominatum, 59·97; a vertebra, 54·25; and the sternum 51·43. It will be seen from these data that the largest proportion of earthy matter is contained in those bones that are exposed to the greatest strain and pressure, and are, consequently, more dense in their structure; while the spongy bones subjected to less pressure contain from 5 to 10 per cent. less of inorganic matter.

Mr. Bishop has put this question to the test of direct and positive experiment. In order to determine whether the elasticity and strength of bone do or do not vary with the proportions of the organic and inorganic constituents, and, if such be the case, what is really the smallest quantity of inorganic matter consistent with the efficient strength and elasticity of bone to protect and support the body, it is only necessary to remove by degrees from a lamina of healthy bone, of a given weight, certain quantities of its inorganic constituents, by means of dilute hydrochloric acid, and then to fix one end of the lamina firmly, and suspend at the other end a weight, sufficient to bend the bone into a curve. If the elasticity of the bone be unimpaired, the lamina will, so soon as the weight is removed, return to its primitive form. Mr. Bishop took a rectangular plate of bone from the shaft of the femur of the ox, which weighed seventy-six grains, fixed one end in a vice, and by means of a string attached to the other end suspended a weight of little more than two pounds, the amount of flexure produced was about equal to an angle of 5 degrees, and on the removal of the weight it recovered at once its primitive form. The same lamina was plunged in weak hydrochloric acid for about two hours, taken out, and allowed to dry, after which the loss of weight was found to be fifteen grains, consisting chiefly of inorganic matter. Again fixed in the vice, and the same weight suspended from its fore extremity, the curve was increased to eight degrees, and after the removal of the weight, it regained its primitive form, demonstrating that it still retained its elasticity. It was again placed in the acid for some time, and again dried, after which it was found to have lost five grains more of the inorganic constituents, being reduced to 51 grains. On being again fixed as before, and the same weight applied, the angle of curvature increased to 35 degrees, and after removal of the weight, the bone remained curved, showing not only a reduction of strength, but also a very considerable diminution of elasticity. This corresponds with the altered proportions of the inorganic and organic constituents of bone, which are in the normal state as 2:1, while in the bone after the second immersion in hydrochloric acid they were as 3:2. As it might be objected that the loss of solid matter had been the cause of the loss of strength, and the consequent increase of the curve under pressure, another lamina from the same bone and of similar dimensions was ground down to the same weight as that which had been acted on by hydrochloric acid, and, on being subjected to the same pressure, the curve was 25 degrees, instead of 35 degrees, leaving ten degrees evidently due to the removal of the inorganic matter. There can be no doubt that the specific gravity of bones differs in degree, corresponding to differences in the amount of their components, and the elasticity varies with the specific gravity, but the researches of the lecturer were not so complete as to justify him in laying the results before the Society. Another proof that the elasticity and strength of bone depends on the proportion of its constituents, and not on structure, is, that two laminae, one of ivory, the other of bone, of equal dimensions, take nearly the same curve on the application of the same weight; the structure of the two being widely different, while the chemical constitution is nearly identical.

The practical application of these researches is important as elucidating the cause and nature of those curvatures of bones seen so commonly in early life, and too frequently producing permanent deformity. In early age—from one to four years, during the process of teething, the phosphate of lime is partially consumed in the production of the teeth, and at this period the tibia and fibula often become so flexible from deficiency of earthy matter, without any positive disease, as to bend under the weight of the body, and it is in this state that mechanical support is necessary, for if while in this curved condition the bones acquire a sufficient proportion of earthy matter to restore their natural elasticity, they remain distorted throughout life, and the curvature is irremediable. In the same way, the vertebræ frequently become soft and compressible about the age of puberty, especially in females, and remain in this condition to the twentieth year; and if, during this period, they are unequally pressed upon by the long-continued repetition of some particular attitude of the body, they give way, and being inelastic, do not recover their form. If the peculiar attitude be persisted in until the bones regain their normal proportion of inorganic matter, the spinal deformity will resist all treatment, and be permanent. Simple correction of the attitude, so as to ensure equal pressure during the period of softening, will easily correct the deformity.

In the cases considered above, no structural disease of the bones can be discovered, but deficiency of the inorganic matter producing unnatural flexibility of the bones accompanies organic changes in rickets and mollities ossium. In the former, the bone-cells are found nearly empty, and the canaliculi disappear; the lamellæ become partially obliterated, and vacant spaces occupied only by a few loose bone-corpuscles exist between the remaining laminæ; the bones are highly vascular, and the vessels gorged with dark blood; the periosteum abnormally vascular, turbid, and so firmly adherent to the bone that when forcibly detached it brings away with it a layer of the expanded spongy tissue of the bone.

The other form of softening of bone, osteo-malacia or mollities ossium, is peculiar to adult, if not advanced age. It chiefly attacks the bones of the trunk, leaving the extremities free. The changes commence in the laminæ, which increase in size, and the bone around them becomes more transparent, and, finally, several laminæ unite, and form one cavity, which, according to Professor Quekett, is soon filled with adipose tissue, so that the bones are found attenuated and full of fat; and from the large quantity of adipose matter occupying the position of the normal tissues, this disease has been viewed as a fatty degeneration of bone. So great is the diminution of the earthy matter, that it was found by Von Bibra to be reduced to 20-25 per cent. in the vertebra of a man afflicted with this disease. In addition to the adipose deposit, a large number of peculiar nucleated cells, probably of a malignant character, were deposited in the bones.

The lecture concludes with caries or ulceration of bone, and a very full description of the pathology of this form of disease is given by the author.

The second lecture is devoted to the consideration of the organic

changes in necrosis, the mode of formation of the new, and the throwing off of the dead bone ; the necessity of removal of the dead bone by surgical manipulation ; followed by remarks on exostoses, osteophytes, and soft tumours of bone, and the difficulty of their diagnosis.

In relation to compact exostoses, the author remarks that a tumour of this kind presents to the eye the appearance, and to the touch the form, of a nodule, with an abrupt margin ; it is frequently separated from the subjacent bone by a furrow of variable thickness ; and sometimes there is a deep fissure between the nodule and the bone lying beneath. The density of these nodules is often very great, and in this state the disease is termed the ivory exostosis. These ivory tumours are of greater density and specific gravity than the normal bone with which they are associated, unless they happen to be connected with bone already in a state of induration. They are always composed of laminæ, and seem never to be intermixed with spongy tissue. The density of the tumour is owing to the greater number of laminæ contained in a given space, when compared with the number of laminæ found in the same space in normal bone. The Harveian canals are small, and few in number, but a well-defined lamellar system is found surrounding them. The bone-corpuscles are irregularly scattered in the substance of the tumour, and in some places they are clustered together, while in other parts larger tracts are found entirely destitute of them. The colour of these exostoses is yellowish-white, and they are of a lighter hue than the bone to which they are attached.

The third lecture comprises the fractures and reparation of bone ; the unequal effects of falls in the production of fracture ; the formation and structure of the primary and secondary callus ; fractures of difficult reunion ; of the neck of the femur, of the patella, of the olecranon, and coronoid processes, with a refutation of the opinion of Sir Astley Cooper, that these fractures are never united by bone.

The two points of especial interest in this lecture are the remarks of the author on Sir Astley Cooper's opinions concerning fracture of the neck of the thigh bone within the capsule, and the author's views on the position in which the limb should be placed after fracture of the shaft of the thigh bone.

It is well known that the late Sir Astley Cooper always taught the doctrine that fractures of the neck of the thigh bone were incapable of being repaired by osseous matter, and that in the whole course of his practice he had never met with a single instance, nor could he meet with any one who had seen a case where such an occurrence had happened ; and that union within the capsular ligaments (when any such union takes place) is always by membrane. However, it appears that he had no sooner published the last edition of his work, "On Fractures and Dislocations," than Mr. Swan forwarded to him a specimen of the thigh bone in which the fracture of the neck had become reunited by osseous matter. Sir Astley retained the specimen until his death, and it appears that he never had the courage or policy to promulgate the discovery of the error of that doctrine which had so pervaded his mind, and which had misled the profession during a period of forty years. The specimen of Mr. Swan is now in the

Museum of the Royal College of Surgeons. Besides which, there are cases of Mr. Hodgson, published in the seventh volume of the Guy's Hospital Reports, the preparations of which are also in the Museum of the College of Surgeons. These specimens render the question of the possibility of the reunion of the neck of the femur within the capsular ligament completely verified.

Mr. Bishop prefers the double or triple inclined plane in the treatment of fractures of the shaft of the thigh bone to the straight splint of Desault. He says, "The use of the straight splint is advocated by Desault, and, I believe, is used at most of the London Hospitals. This principle of the latter plan (the double or triple inclined plane), which was first recommended by Pott, and used by Sir A. Cooper, Dupuytren, Mr. Hodgson, &c., is now adopted by many of the best surgeons in this country. The objection made to the long straight splint of Desault is that the skin of the pelvis and leg are so pressed on by the apparatus as to occasion great and almost unsupportable suffering, which may be succeeded by inflammation, suppuration, and gangrene; so that when the splints are removed, at the end of three weeks, sloughs are sometimes found on the leg and foot, so as to require amputation, under which the patient may sink. Another disadvantage of the straight splint is that the ends of the fractured bone, not having a vertical support, may overlap each other, and the limb may become shortened." Thus, if the bone be not steadily supported by other means than the straight splint, the lower fractured end will fall below the natural direction of the bone, while the upper part is drawn up at the same time by the action of the psoas and iliacus, and the two fractured extremities will, by the action of the other muscles, be caused to ride over each other, and the limb will necessarily be shortened. But the case is very different when the flexed position is adopted, both in reducing the fracture, and in retaining the limb in position. The course to be pursued is to place the patient on his back; the pelvis is then flexed, or held by assistants; the thigh is raised greatly, and drawn forwards, and the leg flexed at the knee-joint. In this way the limb is easily drawn to its normal length without violence, and the foot regains its natural direction by the relaxation of the adductors, which cause the eversion of the foot, and of the glutei, which draw the shaft of the bone upwards. The limb thus treated, will retain the parts in position without any tight bandaging, and without causing the same amount of irritation that the other system produces.

A guide to the practical study of Diseases of the Eye, with an outline of their medical and operative treatment. By JAMES DIXON, Surgeon to the Royal London Ophthalmic Hospital, &c. (London, John Churchill, New Burlington Street, 12mo, 1855.)

During the past year, when advertisements announced the advent of this work, we were wont to speculate on the nature of the addition that was about to be made to our already crowded literature on eye diseases; and taking into consideration the great opportunities for

observation that the author possessed, the long period that he has commanded them, his well-known literary taste, and his high education, we argued ourselves into the idea that, before long, we should open a full and comprehensive work on the eye, in which the student who desired information in this branch of our profession might find enough for his guidance and instruction, while the busy practitioner, already somewhat acquainted with ophthalmic practice, and unable, from his avocations, to consult monographs, much less scattered papers, might at once find any desired information, and ascertain the last improvements in practice with as much ease as if he were talking to the writer. These expectations, however, are by no means realised, nor can they be in a small octavo volume of widely printed pages in large type; but be this as it may, our duty is to review that which we receive, to point out the excellencies, and to notice the deficiencies. Mr. Dixon, then, does not profess more than he has done, for we are warned in the preface not to expect a systematic work. "I have, therefore, chiefly dwelt on the description of outward phenomena; for, inasmuch as the peculiar susceptibility of a patient must cause endless modifications of his subjective symptoms, a full consideration of these would have expanded my volume, from its present moderate dimensions, up to a system of ophthalmic pathology." We have then, in fact, before us, an elementary treatise, and parts of it very elementary, intended for the early student, and not a work of reference. "We already possess," he continues, "valuable systematic works, which the advanced student may always refer to with advantage, as soon as he has familiarized himself with the outward appearances of ophthalmic diseases." We cannot help remarking that among the books of reference mentioned in the preface, no notice is taken of a modern work that has tended to raise the standard of ophthalmology in this country, and has undergone several reprints in foreign countries.

Before commencing with the subject matter, we much deplore a very grave defect in the volume, namely, the want of an index. We cannot understand how a scholar, who well knows the value of a good index, can publish a work on science without one. There is a table of contents, but it is not classified. The worth of a literary production of this nature is materially lessened by such a want.

There are nineteen chapters. In the first, which is devoted to the examination of the eye, the chief points of interest are the remarks on the ophthalmoscope. After a few short and useful rules about applying the instrument, strict caution is enjoined against its abuse.

"So much has lately been written about the value of the ophthalmoscope as a means of detecting incipient disease of the retina, that the student must be warned against the irreparable mischief he may inflict upon an eye, in which vision is only slightly impaired, by subjecting it to an intense glare of concentrated light.

"His first trials should be made on one of the lower animals,—a kitten, for example; and when he has acquired readiness in using the instrument, he may next proceed to examine patients who have long been hopelessly blind, but in whom the media of the eye remain transparent."

"One very important fact should never be lost sight of by those who employ the ophthalmoscope, namely, that the mere concentration of powerful light on the retina, if continued for more than a few seconds, does of itself place the part in an unnatural condition. In exploring the internal ear, by means of artificial light, we may, indeed, concentrate the rays upon the tympanic cavity, or its membrane, to any amount, without injury to the parts illuminated; but the retina, so far from being a merely passive object of examination, is just the one tissue in the body which appreciates the intensity of the rays which fall upon it; and it must be borne in mind that an eye may be irritable and intolerant of light to an extreme degree, even although there may be a considerable diminution in its power of perceiving objects." (page 8.)

We should have been better pleased if more positive personal information had been added. When a man in Mr. Dixon's position notices an appliance of supposed high value, we naturally expect a definite exposition of his views. The majority of those who have written on the instrument are but students in ophthalmic medicine, or, at least, have not had Mr. Dixon's opportunities for using it.

Chapter the Second.—"*The Conjunctiva*."—After two paragraphs on the appearance of the conjunctiva in health, we meet with "Diseases of the conjunctiva," arranged as follows:

Pterygium.—Here, in speaking confidently from what he (the author) alone has seen, and deducing a rule, a reader may be misled.

"The apex is obtusely rounded off, opaque and whitish in texture, and so firmly attached to the cornea as to look almost like an elevated, thickened cicatrix of that structure. It is this encroachment on the cornea that usually first alarms the patient; and he applies to the surgeon under the apprehension 'of a skin growing over the sight.' There is, however, no real danger of this taking place, for, according to my own experience, the apex never extends so far over the cornea as to obstruct the area of the pupil." (page 12.)

We have had to treat two cases in which the pupil was obstructed. In the one, two-thirds of the cornea was traversed, and the eye was quite useless when directed to objects directly in front. It was under the assurance of the impossibility of the pterygium being ever more than a deformity, that assistance was injudiciously delayed.

"*Inflammation (Ophthalmia)*."—This subject has been subdivided and mystified by writers, to the distress and mortification of students, who have been sadly puzzled even with the descriptions, to say nothing of their not being able to recognize what was talked about. As usual, our author has a classification of his own; it is as follows: "*Simple Ophthalmia*," "*Pustular Ophthalmia*," "*Catarrhal Ophthalmia*," "*Purulent Ophthalmia*," "*Granular Ophthalmia*," "*Gonorrhœal Ophthalmia*," "*Purulent Ophthalmia of Infants*," "*Scrofulous Ophthalmia*," "*Exanthematous Ophthalmia*," "*Chronic Ophthalmia*." The symptoms and treatment of these forms are concisely, simply, and well given. There is, too, displayed, the common sense and sound judgment that characterises good surgery. There is an absence of the violent measures miscalled remedies. The lancet and escharotics do not flourish, but soothing means and general treatment take their

place. This sentence, under the head of "*simple ophthalmia*," should be written in letters of gold.

"In using stimulating lotions, it should be remembered that their use is not to be persevered in too long, otherwise they keep up, instead of subduing, the irritability of the conjunctiva; and it is well, after they have been used for a few days, to leave them off for a day or two, and observe the result." (page 19.)

We believe that any one who has taken the trouble to watch, or had it in his power to see, for any length of time, a case of genuine granular ophthalmia treated with escharotics, will confess the inefficacy of such treatment. We are sure that they do harm, and therefore we have satisfaction in reading this.

"I believe that in most cases of granular lid our chief dependence must be placed in improving the patient's general health, by giving him iron and quinine, singly or in combination, regulating his diet, and, if possible, placing him in a pure and bracing air."

We must, however, deprecate what follows, as we regard it as a piece of useless barbarism.

"An issue in the skin of the temple, kept open with a single pea, and occasionally stimulated, if the discharge becomes scanty, with some caustic or other irritant, is a slow, but often very serviceable adjunct." (page 36.)

Scrofulous ophthalmia—

"Locally, we should abstain from over-stimulation and teasing the eyes, and employ such applications only as are grateful and soothing. Counter-irritation, short of weakening the patient, affords the greatest relief. Abstraction of blood I can hardly conceive admissible in any case. As for the barbarous proceeding termed "scarification of the conjunctiva," it is so nearly obsolete that one may hope to see it, ere long, discarded from ophthalmic practice." (page 51.)

Again—

"But all remedial measures will be in vain unless proper care is paid to the child's diet and mode of life. Plenty of plain, nourishing food should be given; but there should be no over-feeding. Some of the most troublesome cases I have ever seen have been those where a young child, of three or four years, has been stuffed with meat twice a day, with beer at dinner, and even a little wine besides, while, at the same time, the bowels were constantly worried with some mercurial preparation, and a solution of nitrate of silver was dropped, night and morning, upon the irritable eyeball." (page 53.)

Chapter the Third is devoted to a very brief consideration of "Abnormal states of sub-conjunctival tissue."

Chapter the Fourth.—"*The Cornea*." "Conical Cornea."—We are not surprised at not finding any addition to our imperfect means for treating this malady. There is, however, a point respecting the pathology that we may quote, as there is abroad a theory about the disease always being of an inflammatory origin, and which is incorrect.

"In saying that conical cornea usually begins when the patient is between twenty and thirty years of age, I restrict the remark to the genuine, uninflamatory affection; for a similar deformity is sometimes the result of inflammation of the part, with or without ulceration. I

quote a case of the latter kind, as it presents a rare instance of conical cornea occurring at an early age.

"Priscilla S., aged four years, was brought to me on the 9th April, 1847, with an opacity at the centre of the left cornea, the result of a small ulcer which had cicatrized. The cornea was very slightly conical, and, except at the centre, quite transparent. On February 8th, 1849, she was brought again, the sight of the eye having become very defective. I found the small cicatrix in the same state as before, but the cornea had assumed a completely conical form." (page 67.)

The disgusting "emeto-purgative plan" of making a patient swallow an emetic every day for a year or more, is justly censured.

The treatment of acute inflammation of the cornea is so dissimilar to that usually prescribed, that we subjoin it.

"I am aware that the treatment of acute inflammation of the cornea, recommended by those whose opinions are entitled to the utmost attention, from their large experience and high scientific attainments, comprises active depletion, in the form of general and local bleeding, and the administration of mercury so as to affect the mouth. Nevertheless, I must express my decided conviction that, in the vast majority of such cases, if not in all, both bleeding and 'mercurialization' are most injurious. I speak, be it observed, of that form of inflammation which is characterised by a general haziness of the cornea, the peculiar crescentic plexus of vessels at its margin, tenderness of the globe, intolerance of light, and lachrymation, and which occurs, for the most part, in young persons of a manifestly delicate and irritable frame; or in those who, with an outward appearance of what may almost be termed vigour, are really over-excitabile, and as much depressed by local disease as the habitually pale and ex-sanguine. Such patients are always injured by mercury, but under the steady use of tonics, especially iron, with or without quinine, the inflammatory symptoms subside, the vessels which had begun to shoot into the cornea dwindle and disappear, the haziness is lessened, the irritability of the eye subsides, and it is gradually restored to usefulness. Counter-irritation, by means of repeated small blisters to the temples, or behind the ears, is an important aid to the tonic treatment. In certain subjects, a few leeches occasionally applied to the temples afford great relief; but in the majority of cases they are useless, or even injurious, and aggravate, instead of lessening, that neuralgic character which the pain so often assumes when the fibrous tissues of the eyeball are inflamed." (page 75.)

We have not ourselves for years adopted any other principle of practice, excepting the blistering, in which we have not the least faith. It is the term "acute," used along with inflammation, which drives surgeons to do such violent things with their patients. So long as men think that disease may arise from an excess of vitality, they will continue to commit manslaughter by bleeding and purging their patients to death. Mal-assimilation and mal-nutrition are not sufficiently associated with morbid changes in our body.

The remainder of this chapter is occupied with "*Inflammation of the Cornea*," "*Suppuration, Ulceration, and Opacities of the Cornea*," "*Foreign Bodies in the Cornea*," and "*Foreign Bodies in the Aqueous Chambers*." We cannot take exception at what is written.

In a work of any greater pretensions, we should characterise it as being very scanty.

Chapter the Fifth.—“*On the Sclerotic.*”—This may be rapidly passed. As an instance of the brevity with which the subject is treated, we quote the passage which immediately follows an account of sclerotic inflammation.

“Attacks of this kind are much modified by rheumatic complications, and it would lead me too far were I fully to enter upon the treatment to be pursued.” (page 106.)

Chapter the Sixth.—“*The Iris.*”—This is the longest in the book. Here we find that our author believes in a “*membrana pupillaris.*”

“It is said that in rare instances the ‘pupillary membrane’ which exists in the fœtus, is not wholly absorbed at birth; and its persistence may give rise to a belief that the infant is the subject of congenital cataract. I have never met with a case in which the whole of this membrane was persistent after birth, but I have occasionally seen in adults what appeared to be slight vestiges of it, in the form of little tags of the fibrous tissue of the iris, projecting from that part to which the pupillary membrane had been attached. This membrane, it must be recollected, is not united with the iris at the extreme edge of the pupil, but at some little distance from it” (page 118).

Surely he is not unaware that Mr. Quekett has, in vol. iii. of the ‘Transactions of the Microscopic Society of London,’ disproved that any such membrane exists. “The vessels of the posterior layer of the capsule of the fœtal wolf, as shown in Plate III, fig. 1, are of small size; they are derived from the arteria centralis retinæ, which, after reaching the capsule, divides generally into two branches, each of which divides and subdivides in a radiating manner, so as to form a delicate plexus; on reaching the equator of the lens, the vessels become more or less straight, and, in some cases, each straight vessel will split up into two branches, one of which will pass into or join the vessels of the anterior layer of the capsule, and the other anastomose with those of the iris. The vessels of the anterior layer, as shown in Plate III, fig. 2, are of much larger size, and less numerous than those seen in fig. 1, which is a representation of the posterior layer of the same lens, and they evidently correspond in arrangement to those described as peculiar to the *membrana pupillaris*, and as I have never been able to find two sets of vessels in front of the capsule, it would appear that the presence of a *membrana pupillaris*, as generally described as filling up or closing the aperture of the pupil, is more or less the result of accident; if the lens come away with its capsule entirely covered with vessels, no *membrana pupillaris* will be found, but if (as frequently happens) the straight vessels above described as passing into the anterior capsule give way, then the layer of the capsule may be retained by the vessels connecting it with the iris, and so form the *membrana pupillaris.*”—‘Microscopic Journal.’ We subjoin some of the valuable passages in this chapter. In alluding to the term *iritis*—

“Now, it would be too great an innovation, I think, to discard a word so universally employed, unless we could substitute one altogether unobjectionable; and it will be sufficient, if the student bear in mind

that the anatomical connexions of the iris with other parts of the eye are so intimate, that inflammation in the iris always more or less involves the deeper textures of the eyeball." (page 123.)

"The appearances common to all cases of iritis are—a red zone in the sclerotic, close to its junction with the cornea; more or less deformity of the pupil, and loss of its normal mobility; a change of colour in the iris; loss of its peculiar fibrous appearance." (page 127.)

"I may now briefly sum up what has been said concerning the symptoms of rheumatic iritis.

"It chiefly attacks the fibrous tissues of the eye, and is always attended with pain, such as accompanies inflammation of similar structures in other parts of the body.

"The phenomena are eminently those of vascular engorgement; the sclerotic exhibits a peculiar purplish-red tint, and blood-vessels become visible in the iris, where they are never seen in a state of health.

"There is little tendency to effusion of fibrine, as compared with the syphilitic inflammation; but, although the fibrine is poured out in small quantity, it is deposited in a situation eminently injurious to vision—namely, between the lens and the posterior surface and pupillary margin of the iris.

"In the cornea there is a marked disposition to inflammatory deposit, and consequent opacity; and this frequently becomes more marked as the inflammation in the sclerotic and iris subsides." (page 134.)

Regarding "*Syphilitic Iritis*"—

"The efficacy of turpentine in iritis was strongly urged some years ago by Carmichael, of Dublin. He by no means proposed it as a substitute for mercury on ordinary occasions, but only as useful in those cases where, from extreme debility of the patient, mercury might be injurious. In such cases, more benefit is, I think, likely to result from quinine, in combination, perhaps, with small doses of mercury; the patient's strength, meantime, being sustained by a liberal diet.

"The only cases in which I have myself found turpentine beneficial, have been those of a rheumatic character, with visible enlargement of the vessels of the iris, the characteristic sclerotic redness, and tenderness of the globe, but without any marked tendency to the effusion of fibrine into the anterior chamber. I wish I could point out some guiding sign by which it could be determined that a given case of this peculiar form of iritis would be benefited by turpentine; but I cannot. I can only say from experience, that now and then I have met with a case in which mercury seemed to do harm, and quinine no good; but where Chian turpentine, in five-grain pills, three or four times a day, effected a cure. In other cases which seemed of the same kind, I have found the turpentine apparently useless." (page 143.)

We find about a dozen pages, including the narration of two cases from the author's own practice, devoted to "*syphilitic iritis*" in infants. We fully concur concerning the rarity of the disease. We have never ourselves seen, so far as we remember, a single unequivocal sample. Mr. Dixon shows the value of a treatment consisting of Hydr. c. Cretâ combined respectively with the iodide of potash or with bark.

Respecting "*Gouty Iritis*"—

"I cannot recollect ever to have seen a case of true iritis which I could distinctly trace to a gouty origin; and the appearances I have enumerated, as assigned to '*Arthritic Iritis*,' are found in patients who have never had the slightest symptom of gout in other parts of the body. They are identical with what we see in the early stage of that general inflammation of the globe which has received the name of '*Glaucoma*.'

"I should have hesitated to speak separately of scrofulous iritis, were it not for one patient who came under my notice several years ago." (page 157.)

Chapter the Seventh contains three pages and a half on "*Inflammation of the Iris and Cornea together*." The author endeavours to show that the term aquo-capsulitis is based on an anatomical error, that the affection usually so described is superficial inflammation of the iris and the cornea. This is a subject which is now exciting attention, and the clearest exposition of it that we have seen is in a paper by Mr. Haynes Walton, in the '*Medical Times and Gazette*' for May 5th, 1855, headed '*A Clinical Lecture on the non-existence of such a disease as aquo-capsulitis*.'

Chapter the Eighth, on "*The Choroid and Retina*," is excellent. It shows that we do not possess any means of diagnosing a case of incipient "*Choroiditis*." The very name is objected to.

"That any recognizable inflammation of the choroid can exist apart from disease of the retina, appears to me an entirely arbitrary assumption, unsupported by the phenomena observed in actual practice, and tending only to perplex the student, by giving rise to a needless multiplication of terms, and fine-drawn distinctions." (page 171.)

Tyrrell's pet theory about "*muscæ volitantes*" being due to a congestion of the choroid, is overthrown, and the absurdity of the terms, "*Choroido-Iritis*," "*Sclerotico-Choroiditis*," pointed out.

"The whole fundus of the vitreous chamber may afford evidences of extensive disorganization, while the iris and superficial textures appear perfectly healthy. Such examinations prove how little dependence can be placed on those descriptions of '*Choroiditis*,' and '*Retinitis*,' as set forth by some systematic writers, who would teach us, from the condition of the pupil, the colour of the iris, or the appearances noticed by the patient, to pronounce with certainty as to whether the choroid or the retina be the seat of disease." (page 175.)

The chapters Nine and Ten, respectively on the retina and the vitreous body, are meagre in the extreme.

Chapter the Eleventh.—"*The Lens and its Capsule*."—"Perfect transparency of the lens is the most marked characteristic of these structures in a state of health. During the earlier periods of life, they are also quite colourless." We must take exception at this, for perfect transparency cannot exist when the lens is coloured, and especially when it becomes "quite an amber colour." It is among the mysteries of vision that sight is so well preserved with a high degree of colouration.

The following paragraphs, which will be new to most of our readers, and which embrace a new question in pathology, must not as yet be considered settled.

"With respect to opacities of the capsule—hitherto supposed to play

so important a part in cataract—it seems doubtful whether they have any real existence in that disease.

“Stellwag, who has taken advantage of the immense number of *post-mortem* examinations occurring in the General Hospital of Vienna to investigate the histology of cataract, after a careful microscopical examination of about fifty cataracts with apparently opaque capsules, asserts that, in every instance, the opacity was produced by matter attached to the lenticular surface of the capsules; not deposited in the very tissues of the capsules themselves. This matter, which to the naked eye appears identified with the membrane, consists, for the most part, of earthy and fatty substances, firmly adherent, yet separable by careful mechanical or chemical manipulation. The various irregular patches in which the substances arrange themselves, give rise to that marbled or mottled appearance hitherto described as characterising the mixed, or ‘capsulo-lenticular’ form of cataract.” (page 200.)

After this follows a suggestion to change the term now employed to express the kinds of cataract. “Nuclear” and “cortical” are proposed as the names for two grand divisions of cataract. But we must pass to—

Chapter the Twelfth, in which is treated “*Glaucoma; Scrofulous, Encephaloid, and Melanotic Deposit.*” There is nothing here, pathologically speaking, that has not been before the public in various forms, but these remarks at the commencement of the chapter are not without value.

“*Glaucoma.*—This has always been a puzzle to the student of ophthalmic diseases. At one time he hears the term ‘Glaucomatous’ applied to a peculiar reflection from the pupil, which, it is said, appears of a green colour, although he may in vain look for anything like the ordinary green of familiar objects. Then he is informed that *γλαυκος* means only a ‘sea-green;’ and this explanation, perhaps, puzzles him still more, if he remembers his schoolboy notion of Homer’s *γλαυκῶπις Ἀθηνη*. In fact, the Greek physicians, who invented the word *Glaucoma*, knew nothing of the thing which we now understand by that name. Being ignorant of the anatomy of the eye, they naturally mixed up its diseases together in utter confusion; so that it is almost impossible to understand what they really meant by the terms they employed: nor is it very profitable for us to inquire. We may, for the present, dismiss all questions of etymology, and consider ‘*Glaucoma*’ as a convenient term, used, in a purely arbitrary sense, to imply an incurable form of blindness, attended with peculiar morbid changes in all the various tissues of the eyeball.” (page 225.)

Chapter the Thirteenth, under the head of diseases of uncertain seat, includes “long sight, short sight, and inability to distinguish colours.”

Chapter the Fourteenth.—“*The lachrymal apparatus.*”

Chapter the Fifteenth.—“*The Eyelids.*”

“The variety of tissues entering into the formation of the eyelids, of course subjects them to a great variety of diseases: but inasmuch as the tissues for the most part resemble those found in other parts of the body, and do not present the peculiarities which distinguish the structures of the eyeball itself, there is no occasion for treating diseases of the eyelids with that minuteness of description which is absolutely necessary when

treating of morbid changes in the cornea, the iris, and the lens." (page 271.)

We are sorry for this, as lid-surgery, if we may so call it, is an important part of ophthalmology. "These deformities" (alluding to surgical affections of the eyelids) "are so various, and require such manifold forms of operation (which cannot be made intelligible without the aid of figures), that I must refer the reader to the practical portions of M'Kenzie and Walton." Surely the student will require more than this. He will desire to know the result of Mr. Dixon's practical labours. Again, "These apertures" (speaking of the puncture) "may be slit up in the manner suggested by Mr. Bowman." How is a student not in attendance on Mr. Bowman's practice to know in what his method consists, especially as it is not to be found in any of the older ophthalmic works? The diseases of the eye are so recognized, and so commonly taught by surgical and medical lectures, and writings, that students are sure to learn something about them. The operative department, however, is comparatively neglected, and left, for the most part, to the teaching of those who make a speciality of ophthalmology, and we deem a book devoted to diseases of the eye that is not ample in this, decidedly deficient.

Our space compels us to move on quickly, and to pass in rapid review chapter the Sixteenth, on "*The diseases of parts surrounding and acting upon the Eyeball*," and to stop only to notice the very indefinite directions given to detect a squinting eye.

"When both eyes appear to be affected with strabismus, and to turn inwards, it becomes a question which eye ought to be operated on. Various optical tests have been suggested to enable the surgeon to decide this point; but it usually happens that a patient, when subjected to any of these tests, is so anxious and embarrassed, that he becomes very liable to a sudden increase of strabismus in the eye which, on ordinary occasions, would be affected in the slighter degree; and from this cause the experiment may fail to infallibly determine the question. I believe the best rule is to watch attentively which eye squints in the more decided manner, when the patient uses both his eyes in his ordinary way, and to operate on that in which the distortion predominates." (page 304.)

This is worse than useless, and is apt to do harm in diverting attention from those works in which judicious rules are laid down. One reason why the operation is so often unsuccessful, is because of the difficulty of diagnosing the squinting eye, and the sound one being operated on. Besides, the passage implies the frequency of double squint, and this is incorrect. The remainder of the chapters are devoted to a very cursory account of some of the operations required in eye surgery, but only indeed to some of them. The important operations of entropion and ectropion are dismissed in a notice of fifteen lines.

"In the chapter where the appearances of these affections of the lids are described (pp. 274, 275), I have very briefly alluded to the various operations employed for their cure. The main object of the present work being to direct attention to the outward phenomena of those diseases which affect tissues peculiar to the eyeball, I have devoted com-

paratively little space even to the important operations in which those tissues are concerned. The operations of entropion and ectropion, involving as they do merely such tissues as are met with in other parts of the body, need not therefore here be specially described. The works of M'Kenzie and Walton, already alluded to, may be consulted for fuller details concerning plastic operations on the lids, and other parts adjacent to the eye."

We have carefully read these concluding chapters, very carefully, with the intention, in case we found it, of making an extract of anything that is new, or suggestive, but we found nothing added to what is already written in modern works, and thoroughly recognized by the modern ophthalmic school.

There are a few characters of the work that remain to be mentioned. Some of the chapters are prefaced in the commencement by a description of the healthy appearance, or congenital defects of the tissues, the diseases of which they treat.

There are a few woodcuts, and a page with lithographs of some of the instruments that were alluded to in the text. Allusion is often made to a "spring speculum." We wonder what the author means?

References are given to such coloured representations of disease in the works of different authors as are thought really useful to the student.

In conclusion, we express our conviction that we cannot find fault with what is written, as it abounds with common sense, is given in a manly, honest, independent spirit, and evidently emanates from an accomplished surgeon; but we must candidly say, that it is hardly enough for the modern student, who is not likely to attend to ophthalmic subjects till he has mastered the elements of his profession. Let us hope that the next edition will be larger. We should be guilty of injustice to our author, did we fail to speak favorably of his remarkably clear, easy, and concise style of writing.

A new method of employing Cauterization in the Treatment of Fissures of the Palate, &c. By M. JULES CLOQUET. ('Archives Générales de Médecine,' April, 1855.)

On the 26th of last February, M. Jules Cloquet read a paper before the *Académie des Sciences*, in which there appears to be a very important practical suggestion. The paper is entitled a "*méthode particulière d'appliquer la cautérisation à la réunion de certaines divisions anormales, et spécialement de celles du voile du palais.*" The plan is very simple. It is to cauterize *the angle of the fissure to a very limited extent, and then leave the part to cicatrize.* The object to be gained is the gradual closing of the fissure by the necessary contraction of the cicatrix. When the first cicatrix is formed, the angle of the fissure is again cauterized, and the part left to cicatrize; and again and again the process is repeated, until the fissure is entirely closed,—the cauterization of each fresh cicatrix being, as it were, another stitch in a continuous suture.

The short abstract of the paper from which we take this notice

states, that M. Cloquet had successfully applied this mode of cure in four cases of fissured palate. In each case, there was little or no pain, and no alteration was made, either in the regimen or habits of the patient. In one of these cases 24 cauterizations were employed at intervals of a week; in another case, 20, at variable intervals. In three of the four cases, the actual cautery was used; in the fourth, the acid nitrate of mercury. M. Cloquet prefers the actual cautery, but he thinks that the electric cautery will be preferable to the common hot wire, particularly in the case of very timid patients.

In a word, the operation is one of the simplest possible character. It is altogether devoid of danger, and it may be employed upon the youngest infant. It promises, also, to answer in many cases where it is difficult to keep the edges of the fissure in apposition by ordinary means. It is most certainly an ingenious and happy conception to think of applying to a useful purpose that irresistible process of contraction which takes place in all cicatrices, and which is so often the cause of such terrible deformity!

On Electro-lithotrixy; or the Application of the Mechanical Force of the Electrical Discharge to the Disintegration of Stone in the Bladder. By G. ROBINSON, M.D. (4to, London, Churchill, pp. 16; Pamphlet, 1855.)

The great and diversified powers of electricity have long suggested the possibility of its being employed as a means of effecting the disintegration of calculi in the human bladder, and thus obviating the necessity for the painful and dangerous operation of Lithotomy. But the attempts hitherto made in this direction have contemplated the solution of the stone through electrolytic action rather than its disintegration by the mechanical force of the electrical discharge. A moment's reflection will, however, suffice to convince us that the force which shatters a steeple or cleaves an oak, is also capable of reducing to fragments the largest urinary concretion. Nor can the author imagine any other than the following sources of objection to the practicability of employing this force for the purpose of breaking down vesical calculi *in situ*, namely—1. The danger to the living structures from the necessity of using a powerful discharge; 2. The difficulty of conveying the force to the required spot, or, in other words, causing the discharge to pass through the calculus. The first objection is in a great measure met by the fact of our being enabled to regulate with the utmost precision the degree of intensity of the discharge, and it would be almost entirely removed were it possible to apply the disruptive force of electricity without any portion of the body being included within the circuit traversed by the electrical current. The second objection rests upon the mechanical difficulty of bringing the calculus within the direct route of the electrical discharge, but would scarcely apply were it demonstrated that the disruptive effects of electricity can be obtained without any such direct transmission of the current.

“My own attention,” he writes, “was some years since directed to the subject by reading an account of the following experiment, first per-

formed by Mr. Crosse :—‘Two platinum wires, one-thirtieth of an inch in diameter, were secured to a slip of window glass half an inch wide and four inches long, so that they rested upon the flat surface of the glass, leaving an interval between their points of one-twentieth of an inch. The wires were connected, one with the negative conductor of a powerful machine, the other with a ball to receive sparks from the prime conductor. On placing the glass in a flat dish filled with water, and turning the machine, the glass between the points soon became fractured, and after 100 revolutions the fracture enlarged, and two small cracks appeared. After 200 revolutions an excavation was formed, but on the side *opposite* to that on which the wires were tied. After 250 revolutions the glass was completely perforated. Many variations of this experiment were made, in all of which the same kind of mechanical effect was obtained. Even quartz was excavated.’

“It being thus shown that a lateral disruptive action takes place within a certain distance of the seat of discharge, the idea at once suggested itself to me, that by using two parallel wires separated at their extremities like those in Mr. Crosse’s experiment, and similarly connected with an electrical machine or Leyden jar, bringing their ends in contact with the surface of a calculus, and then allowing a series of moderate discharges to take place between the extremities of the wires, a disintegrating effect would be produced upon urinary calculi of the same nature as that witnessed in glass and quartz. And short of the actual disintegration of a calculus in the bladder of a living person, the following experiments will, I trust, be deemed conclusive on this point.

“Two copper wires, one-twentieth of an inch in diameter, were connected, one with the external, the other with the internal surface of a Leyden jar, having about 400 square inches of internal metallic coating. These copper wires were soldered to platinum wires, half an inch long and one-thirtieth of an inch in diameter. Each wire was drawn through a fine gutta percha tube; and the tubes, having first been placed perfectly parallel, were warmed and gently pressed together, so as to assume somewhat of the appearance of a flexible bougie—the platinum wires projecting beyond the gutta percha to the extent of one-eighth of an inch, and their free extremities being slightly everted and separated from each other by an interval of one-tenth of an inch. In experimenting, the united gutta percha tubes were grasped, and the projecting platinum points pressed against the surface of the calculus; the jar was then discharged by another person, and a series of such discharges thus passed between the free extremities of the parallel platinum wires while resting upon the surface of the stone.

“With this simple arrangement, fragments a quarter of an inch long were broken off flints immersed in water, and the same force was applied to urinary calculi with the following results :—

“*Exp.* 1, June 7.—A piece of a large lithic acid calculus was placed in a bladder, nearly filled with water, into which the gutta percha bougie containing the wires was then introduced, and the neck of the bladder tied round the instrument. The bladder with its contents being placed on a wet board, the projecting platinum wires were then kept in contact with the surface of the calculus, and the jar discharged. On opening the

bladder and examining the stone, it was found to be broken into numerous fragments by the single discharge.

"*Exp. 2.*—A small phosphatic calculus, very smooth and hard, was experimented upon in a similar manner. The first five discharges produced no perceptible effect, but the sixth split it into at least twenty fragments, and many of these, on being slightly pressed between the finger and thumb, readily broke down.

"*Exp. 3.*—A very large oxalate of lime, or mulberry calculus, with projecting tubercles, was similarly tested, and the first discharge produced a small cavity in the surface to which the wires were applied separating a considerable quantity of fine sand; but subsequent discharges did not act so efficiently on this very large stone.

"*Exp. 4.*—On the following day, June 8th, the experiment was repeated in the presence of Messrs. Potter, Rayne, and Furness, surgeons in Newcastle; and a small calculus, removed a few months since by the gentleman last mentioned from a young boy, was, after a few trials, split through the centre, one half being reduced to fragments, and the other exhibiting in its interior a dark-coloured nucleus of lithic acid.

"These experiments appear to demonstrate the practicability of applying the lateral disruptive force of the electrical discharge to the disintegration of calculi in the bladder. There can be no difficulty in bringing the end of a gutta percha catheter, conveying two copper wires, in contact with the surface of a stone in the bladder, and a very simple mechanical contrivance will enable the extremities of the platinum wires to be protruded when the end of the catheter touches the calculus. By employing two wires, one connected with the positive, the other with the negative, portion of the jar or machine, not only is the intensity of the discharge increased, but the body is also prevented from forming any part of the circuit, and the risk of injury thereby materially diminished. The bladder used in the above-mentioned experiments was not at all injured, and on retaining a portion of it between the platinum wires, so that the discharge passed through it, no perforation or other destructive effect took place. The gutta percha tubes, having the projecting platinum wires, were placed in the mouth without being in contact with the lips, and a discharge sent through the wires, but there was no perceptible shock. When, however, the bladder containing the stone rested upon the hand, during the act of disintegration a smart impulse was felt.

"On the whole, I am of opinion that the electrical force, applied in the manner indicated, will be found quite as efficient for the disintegration of calculi in the bladder as the more formidable analogous operation of Lithotripsy, occasionally practised; and, as regards simplicity and security, the electrical apparatus certainly appears preferable to the instruments used for crushing the stone by ordinary mechanical force."

Dr. Robinson also enters into several particulars respecting electricity, and the mode of using it, and he gives a plate of the apparatus necessary; and we recommend our readers to get his pamphlet, and study it well, if they are disposed to carry his suggestion into effect.

Lithotomy simplified; or a new method of operating for Stone in the Bladder, &c. By GEORGE ALLARTON, M.R.C.S., Deputy-Coroner for the West Bromwich District of South Staffordshire. (1854, London, Ash and Flint; 8vo, pp. 80, with plates.)

The operation which Mr. Allarton recommends is a modification of the old Marian operation, which was practised by all the surgeons in Europe, in the sixteenth and seventeenth centuries, and which has been revived in variously modified forms at different times since, particularly in 1843, by Dr. De Borsa, of Verona. In the Marian operation a grooved staff is introduced, and *cut down upon in the middle line*, and various instruments are then employed to dilate the opening into the bladder.

Mr. Allarton thus describes his method:

"I introduce a grooved staff in the usual manner, and of the usual size, and confide it to an assistant, with directions to keep it perpendicular and hooked up against the pubes: I then introduce the index finger of my left hand into the rectum, placing its extremity in contact with the staff, as it occupies the prostate, and press it firmly against the staff, so as to steady it, then, with a sharp-pointed straight knife, with tolerably long and rough handle, I pierce the perinæum in the middle line, about half an inch above the anus, or at such distance as may appear necessary to avoid dividing the fibres of the external sphincter, —I carry the knife steadily and firmly on till it strikes the groove of the staff, the deep sphincter lying between the knife and the directing finger, which enables me to judge of the distance as the knife passes along. If the incision be not made exactly in the median line, the contracting fibres of the injured muscles draw the point of the knife from its direct line and interfere with the accuracy of striking the staff, hence the advantage of the long rough handled knife, which affords a firmer hold and better purchase. Having struck the groove of the staff, I move the point of the knife along the groove towards the bladder a few lines, and then withdraw it, cutting upwards, so as to leave an external incision of from three quarters of an inch to one and a half inches, according to the presumed size of the stone—the escape of urine indicates the entrance to the urethra. I then introduce a long ball-pointed probe or wire through the external opening into the groove of the staff, and slide it into the bladder, to sufficient depth to insure its safe lodgment in that viscus, and withdraw the staff. I then well grease the index finger of the left hand and pass it along the probe, with a semi-rotatory motion, through the prostate into the bladder; which procedure is achieved without difficulty, and when the stone is free it comes at once into contact with the finger, and, if of moderate size, passes at once into the wound on withdrawing the finger, the patient having power to strain upon and thereby facilitate the extraction of the stone; this last-mentioned power being one of the great advantages of this operation; the incision being made strictly in the median line no muscles are divided, and the integrity of the bladder being preserved, it is under the control of the patient, who exerts, at the wish of the surgeon, a powerful propulsive effort which keeps the stone in or in

contact with the internal extremity of the wound, where it is easily seized by the forceps and extracted by mild persevering traction. Now as the aperture is necessarily the size of the finger which produces it, if the stone be large some other dilating power must be employed in addition to the dilating effect of the forceps and stone combined; for this purpose Weiss' three-bladed female dilator, Arnott's hydraulic dilator, or, what is at once ready and effective, the addition of the vulcanized india rubber finger stalls one over another until the finger is sufficiently enlarged for the purpose, the outer covering being well lubricated with lard before being introduced. But Arnott's dilator, where it can be procured, is by far the most efficacious though not the most expeditious means. Should the stone be of unusual size, it may be readily broken by a short, strong and straight lithotrite, or by a strong and suitable pair of forceps closed by a screw, if the stone be soft and yielding—I say readily, because the stone is, in this operation, within so short a distance of the external aperture that mechanical aid can be brought to bear upon it without the slightest difficulty or risk; again, should the stone resist the efforts to crush or extract it, the wound can be readily enlarged upwards or downwards, by dividing the deep fascia, or even be converted into a bilateral aperture sufficient to extract any average sized stone. I believe the deep fascia to be the great obstacle to the extraction of the stone: I have observed that it acts like a ligature round the finger or forceps, and resists the extraction of the stone. The patient suffers little in this operation, and merely complains of the pricking-stabbing sensation of the first thrust of the knife, the subsequent extraction of the stone does not appear to cause pain; he passes his urine freely by the urethra as well as by the wound, from the time of the operation, and there can be little doubt that the wound might be nearly healed by the first intention with perfect safety. Two of my patients were up and out the day after the operation, and one was walking out on the third day (a cold, snowy, frosty day). The wound left entirely to nature, without tents, &c., heals in about three weeks. The patient, from the completion of the operation, excites no anxiety for his safety; he usually sits up and moves about on the following day, and I cannot well imagine the advent of inflammatory or other bad symptoms.

“The three principal features in this operation, as differing from De Borsa's, are—First, the introduction of the finger into the rectum as a guide, by which the staff is held steady, and the course of the knife guided, so as not to approach too closely to the rectum and to insure the striking of the groove of the staff on the first attempt.

“Secondly. The cutting on the staff daggerways, and completing the incision at one introduction of the knife.

“Thirdly. The complete withdrawal of the staff on the introduction of a long probe, which renders the chance of lacerating the prostate less, on the forcible introduction of the finger.”

The advantages of the operation, according to Mr. Allarton, are—

“The impossibility of missing the bladder—the smaller amount of cutting than in the lateral operation—the neck of the bladder being uninjured—the smaller amount of blood lost—the prostate being merely dilated, not incised—the urine being at once passed by the urethra as

well as by the wound unless union by the first intention be effected—the facility with which the stone is reached, the patient being able to propel it towards the wound—the very short distance between the external opening and the interior of the bladder—the capability of breaking or crushing the stone, and washing out the bladder and freeing it from any minute particles—the small amount of pain—the absence of danger from urinary infiltration—no muscle or vessel of any consequence being divided, no subsequent imperfection can arise—no danger of wounding the rectum—the rapid recovery, the patient being able to go about the next day—and the great facility with which the operation can be done by any practitioner of ordinary skill and ability.”

One argument in favour of the median operation strikes us as of much force.

“It is evident,” writes Mr. Allarton, “that all the muscles forming the floor of the pelvis act in unison—to divide any one of them, or the fascia which supports them, destroys the integrity of the whole; hence we find that the patient, in the lateral operation, has not the same power to strain and cause the bladder to expel its contents—the *point d’appui*, of one side, is gone—the injured side ceases to be antagonistic to the other, hence the bladder recedes before the finger, and before the forceps, requiring the utmost stretch of finger, sometimes, to reach the stone; whereas, in the median operation, the finger readily explores the bladder, and the patient, by his voluntary efforts, can propel the stone towards the aperture, and materially assist the operator in its extraction. Any gentleman who has once explored the wounds made in the two operations, with his finger, will not fail to perceive and acknowledge the great advantage of the median over the lateral operation.”

Dr. De Borsa says that of 100 cases operated upon by Dr. Manzoni and himself, only one proved fatal, and that from causes irrespective of the operation. Mr. Allarton has operated thrice, the first time about fourteen years ago.

Mr. Allarton also describes an instrument which will ensure the right position of the incision, and which may be used by persons who cannot trust themselves to use the simple knife. He also enters into many details, for which we must refer to the book itself. The whole question is one of much importance, and surgeons will do well to read this small work.

A treatise on the Diseases, Injuries, and Malformations of the Rectum and Anus. By T. J. ASHTON, Surgeon to the Blenheim and Western Dispensaries, &c., &c. (London, Churchill; pp. 350.)

It is a remarkable fact in connection with the professional literature of the present day, that a class of diseases which are so extremely prevalent among all classes of society, and especially perhaps among those who belong to the upper and middle ranks, as are diseases of the rectum and anus, should have had so little attention paid to them by medical and surgical writers. We do not say that these diseases have been neglected by surgeons, although perhaps it would not be

far from the truth to affirm that they have not received the attention they deserve; but it is nevertheless a fact, patent to members of the profession, that there has not been published in this country a work at all entitled to be considered a treatise on these affections which they could consult with the hope of finding some notice, or it may be some record of experience, concerning any contingency ordinarily prone to occur at the lower end of the alimentary intestinal tube. One cannot but be struck with the contrast which is thus presented with the state of things which exists in relation to its oral extremity. The human mouth has no ailment that we cannot summon a host of practitioners to palliate or cure. Every street of this metropolis contains a specialist, whose function it is to render assistance in every disorder occurring there from infancy to old age. Yet we are not quite certain that the relievable disorders of the mouth so transcendantly surpass, in number or in importance, those which affect the less dignified and more neglected outlet.

There are many reasons, however, why the affections of the rectum have been allowed by the regular members of the profession to remain somewhat in obscurity. It is to be much regretted that due attention has not been paid them; and we welcome the proof which this volume affords us, that we shall not in future have to complain of the very obvious want in our literature which has hitherto subsisted.

Mr. Ashton's work is comprised in twenty chapters, in the course of which he deals with the following subjects:—Irritation and inflammation of the anus; contraction, fissure, and neuralgia affecting this orifice; inflammation, ulceration, and prolapsus of the rectum; hæmorrhoidal affections in all their varieties; enlargement of the hæmorrhoidal veins; abscesses in the neighbourhood of the rectum; fistula in ano; polypi, structural and malignant disease of the rectum; foreign bodies impacted in the rectum; malformations; and lastly appears a chapter on habitual constipation.

Our space will not permit us to give any very extended analysis of this work. In reference to those points which appear to be most obvious, and on which the greatest stress is laid, the importance of constitutional treatment in hæmorrhoidal affections is one which invites attention. Mr. Ashton evidently inclines to a strong faith in its complete efficiency, in a large majority of cases, to remove the symptoms complained of by the patient, and in all to palliate them very considerably. Thus he says—

“The general treatment of hæmorrhoidal affections must consist in enforcing a strict observance of moderation in diet, due attention being paid both to the quality and nature of the aliment, as well as quantity; all stimulating food and beverages must be forbidden, and only that allowed which is unirritating and easy of digestion. This is a matter so important, not only in the diseases herein treated of, but in all others, that it would be well to give a patient written instructions on this point, in the same manner as when medicines are directed to be taken. The bowels must be regulated, and constipation combated, by deobstruents, laxatives, and stomachic aperients. If fæcal accumulations in the colon exist, these must be removed by emollient enemata; in many cases the use of O’Beirne’s tube will be highly serviceable in dislodging the excre-

mentitious matter. When the secretions and excretions of the chylo-poietic viscera are depraved or deficient, means must be adopted to restore them to a healthy state; for this purpose a few grains of blue pill with one of powdered ipecacuanha should be directed to be taken at bedtime, or mercury with chalk and extract of taraxacum may be substituted; and in the morning one of the following draughts should be taken:

- R Infusi Sennæ co., 3vj;
 Infusi Gentianæ co., 3v;
 Tinct. Card. co., 3j. Fiat haustus.
- R Decocti Cinchonæ,
 Infusi Sennæ co., āā 3vj. Fiat haustus.

“If these are not sufficiently active, sulphate of magnesia, potassio-tartrate of soda, or sulphate of potash may be added. Castor oil is a most useful laxative in these diseases. A teaspoonful of the following electuary, taken either at bedtime or early in the morning, answers very well in moving the bowels once or twice:

- R Confectionis Sennæ,
 Sulphuris Loti, āā 3j;
 Pulveris Jalapæ, 3j;
 Pulveris Zingiberis, 3ss;
 Sodæ Potassio-Tartratis, 5iv;
 Syrupi Zingiberis, q. s. ut fiat electnarium.

“The addition of two or three drachms of copaiba to the above will be very beneficial in many cases, but it renders the electuary so nauseous that some patients cannot take it; if, however, it is made into boluses and wrapped in wafer-paper it may be swallowed without being tasted.” (pp 119—21.)

Further advice respecting regular exercise, clothing, ablutions, &c., follows, for which the work itself should be consulted. The importance of these hygienic and dietetic measures has appeared in our own practice so great, that we have deemed it advisable to invite attention to views which appear extremely sound and noteworthy in relation to the subject.

Mr. Ashton appears to have paid especial attention to that distressingly painful affection, “fissure of the rectum.” His views of treatment are not quite consonant with those which have of late been generally accepted. The point in question is referred to as follows: —“My experience fully justifies me in stating that, in the majority of recent cases, it is not necessary to have recourse to the operation, although some of high authority in the profession assert that incision is the only effectual remedy, and that all sorts of applications, soothing and irritating, are unavailing.” The author recommends great care in keeping the parts clean, the use of astringent lotions, and, in the event of the failure of them, “the free application of the nitrate of silver, at intervals of a few days, for two or three times,” stating that this method “will generally induce a healthy reparative action in the part.” In proof of these views several illustrative cases are subjoined. When, however, the ulcer still remains in spite of the foregoing treat-

ment, the division of its surface, but short of a section of the sphincter, is advocated, by means of an incision directed from within outwards (pp. 36—38).

Passing on to the chapter which is devoted to the subject of fistula in ano, Mr. Ashton thus alludes to a question, often much discussed, of the situation of the internal orifice in fistula.

“To M. Ribes attaches the merit of investigating the question, and showing that the internal opening is never at a greater distance than an inch and a quarter from the anus. Sabatier first called attention to the fact. Ribes examined the bodies of seventy-five people who had fistula at the period of their death; in the majority the internal opening was just above the point of junction of the mucous membrane of the intestine and integument of the anus; and not in a single instance did he find it situated at a greater distance from the anal margin than five or six lines. Since the publication of the result of his observations, they have been verified by several eminent surgeons; yet the practical deductions therefrom are not always at the present day properly considered or acted upon by all practising the surgical art.” (pp. 225-6.)

The principle derived from the fact so substantiated of course relates to the method of dividing the sphincter muscle and other tissues intervening between the fistulous sinus and the cavity of the bowel, only as high as the situation of the internal opening, and no higher. Respecting it, Mr. Ashton remarks—

“Mr. Syme, the eminent professor of clinical surgery, of Edinburgh, has for many years inculcated and acted upon these principles in his practice, and testifies to their perfect success. I have never carried my incisions higher, and have never been disappointed in the result. But some surgeons of great ability and eminence in the profession, and writers of high authority, have pursued the practice of Mr. Pott.” (p. 243.)

And the works of some living authors are quoted, in which it is still recommended to pass the probe-pointed bistoury to the extreme end of the fistulous track, and to divide the intervening partition to the very bottom, irrespective of the situation of the internal opening.

That the performance of the cutting operation is not always absolutely necessary for the cure of fistula, is one of the results of our author's observations. On this point he writes as follows:

“If the health of the individual is good, and all circumstances are favorable, a fistula may be sometimes made to heal without an operation. Sir Astley Cooper mentions, in his lectures, two cases which were cured by injections. I have succeeded in several instances in healing them without operation, though the cure has been somewhat tedious. When a patient objects to the necessary operative proceedings, we may try other means; constant pressure must be made upon the track of a sinus, which should be injected with a solution of sulphate of zinc or copper, or nitrate of silver. When the cavity of the fistula has been hard and callous, I have cauterized it throughout its course with nitrate of silver. The following is the manner of doing it:—Having ascertained the precise direction and sinuosities of the fistula, a probe is to be bent into the form that will most readily pass; it should then be coated by dipping it into the caustic, melted in a watch-glass over a spirit-lamp; thus armed,

it must be rapidly passed into the fistula, and allowed to remain a few seconds, and then withdrawn. A simple poultice or water dressing should be applied for the first twenty-four hours, and after that pressure must be made along its course. During the treatment the bowels must be kept open, and soap and water used to the anus night and morning. By these means we shall sometimes succeed in healing the fistula; but it is a plan not to be relied upon. An isolated case will occur, now and then, in which a fistula will close without any surgical interference." (pp. 237-8.)

A case illustrating this remark is then related, which Mr. Ashton saw with Dr. Quain, of the Consumption Hospital; but the author warns us against the belief that fistula can frequently be cured without a surgical operation.

We must now take leave of the volume before us, recommending our medical brethren who are in the habit of meeting with complaints of the rectum (and who does not?) to consult it for themselves. We regard it as a most useful and valuable addition to our literature, and are certain that it will conduce to its author's reputation as a practical surgeon, especially in connection with that department of our art of which it treats.

An account of the cases of Dislocation of the Femur at the Hip-joint treated by manipulation alone (after the plan proposed by Dr. W. W. Reid, of Rochester, U.S.), in the New York Hospital, during the past two years. By Dr. THOS. M. MARKOE, Surgeon to the New York Hospital. ('New York Journal of Medicine,' Jan., 1855.)

In the Transactions of the Medical Society of New York, for 1852, is a paper by Dr. W. W. Reid, of Rochester, U.S., entitled "Dislocation of the Femur of the dorsum ilii reducible without pullies or any other mechanical power." In this paper, Dr. Reid shows that the dislocation in question can be reduced "by flexing the leg on the thigh, carrying the thigh over the sound one, upward over the pelvis, as high as the umbilicus, and then by abducting and rotating it." He also describes the steps by which he was led to adopt this mode of practice, and relates five cases in which the practice was successfully carried out.

Since this time, this plan has been successfully carried out in several instances, and the paper now under consideration contains fourteen cases, occurring in the New York Hospital, which fully bear out Dr. Reid's expectations. Dr. Markoe, indeed, thinks very highly of the merits of the plan, and we are quite of the same opinion.

Before relating his cases, Dr. Markoe shows that all the credit of the suggestion cannot belong to Dr. Reid. More than once the head of the thigh bone has slipped back accidentally by moving the limb about either before or after extension; and Chelius gives an outline of the views of four writers (and these not all)—Wattman, Kluge, Russ, and Colombat—who have proposed to reduce the dislo-

cated hip by the hands alone of the surgeon and his assistants, without the aid of pullies, or of any kind of forcible extension.

The plan failed in three out of the fourteen cases which are related in the paper under consideration, but Dr. Markoe thinks this would not have happened if he had then known as much of the mode of manipulating as he knew subsequently. We give seven of these cases, including the three failures.

CASE 1.—The first opportunity which presented itself for the trial of the new method, was in the case of an Irish labourer, who was brought into the New York Hospital, November 30th, 1852, with a luxation of the right thigh. He had been struck, a short time before admission, by the cow-catcher of a passing railway train, and thrown some distance, and in his fall, probably, the accident was produced. The symptoms were those of the dislocation of the dorsum ilii, the head lying rather lower down and nearer the ischiatic notch than usual. The thigh was shortened about two inches, extended across the other, with the ball of the great toe of the injured limb touching the instep of the other foot, fixed in its position, and the head of the femur was felt in the position above described when the thigh was rotated on its axis. In addition to this injury, he had received a compound fracture of the left leg, three inches above the ankle, together with a good deal of bruising of other parts of his body. The patient was etherized to the extent of complete relaxation, and Jarvis's adjuster was applied. It broke on the first trial of extension, and was laid aside. This mischance suggested the trial of Dr. Reid's plan, which was accordingly adopted. The operator, Dr. Buck, after bending the leg upon the thigh, gradually adducted the thigh, while at the same time it was being flexed upon the trunk. Carrying the limb thus bent at the knee, and strongly adducted, over the sound thigh, by a gradual sweep over the abdomen, and then slowly and steadily abducting the limb so as to carry the knee outwards, making at the same time a rocking motion by moving the leg backward and forward, had the effect of dislodging the head of the femur from its new position, and making it approach the acetabulum; but it did not enter the socket. From the position above indicated, the limb was now brought down slowly towards a straight position, still kept in a state of forced adduction. This last manœuvre seemed to have a very powerful influence in forcing the head towards the acetabulum, but the whole proceeding was completed without success. It was observed, however, that the head had been moved a little higher on the dorsum than it was before. The same manipulation was now again practised more deliberately and more carefully than before, and as the limb was being brought down abducted, we had the satisfaction of seeing and hearing the reduction effected, by the head of the bone slipping into its socket. All deformity had disappeared, and the motions were free in all directions. The other injuries were properly attended to, and the recovery from the effects of the luxation was rapid and satisfactory. He finally recovered from his compound fracture also, and left the hospital with a good leg and a perfect hip.

CASE 2.—An Irish labourer, æt. 25, received an injury of his right hip, and a fracture of one of his clavicles, by being thrown from a railroad car, while it was in motion. He was received into the New York Hospital, December 8th, 1852, under the care of Dr. Halsted. On examination, the injury to the hip proved to be a luxation of the femur upwards and backwards on to the dorsum ilii. The patient was placed immediately under the influence of ether, and the reduction was attempted by a procedure nearly the reverse of that above described, in Case 1. The leg being flexed upon the

thigh, the limb was flexed upon the trunk and carried up in a state of abduction, then across the abdomen, and being fully adducted, was, in that state, brought down to the straight position. The effect of this mode of operating, which is almost precisely that said to have been employed by Professor Nathan Smith, was to throw the head of the bone forwards, under the anterior superior spine of the ilium, and it was quite evident that a very little more force in the same direction would have brought it upon the pubes. This plan was therefore abandoned, and Reid's manipulation was tried carefully and without the employment of much force. On the first trial it was successful, the bone being reduced with an audible snap, as the limb was brought down in a state of abduction. The recovery was rapid and perfect, and he was discharged, cured, January 15th, 1853.

CASE 3.—Charles O. Merritt, a sailor, æt. 37, of a stout, vigorous frame, was admitted to the hospital with a luxation of the femur, of twelve weeks' standing. Attempts had been made, by an excellent surgeon of this city, to reduce the bone, but without a satisfactory result. A very careful examination was given to the limb by all the surgeons of the hospital who were present, and all agreed that the head of the femur was thrown upon the dorsum of the ilium, in the usual situation; but some doubt existed whether there might not also be an injury of the acetabulum itself. The patient being fully etherized, Reid's manipulation was tried, and, on the first trial, failed, the head seeming to remain nearly in the same position it occupied before the operation was commenced. Dr. Watson, under whose care the patient was, now made a second more careful effort, using more force in making all the movements, but being particularly careful to make forced abduction while bringing down the limb from extreme flexion to the straight position. As the limb was thus descending, slight rocking motions being at the same time employed, the reduction was suddenly accomplished, the head of the bone being felt, or heard, by a great number of persons, to slip into its socket. The limbs being laid side by side, all deformity had ceased, and all present were satisfied that the reduction was complete and perfect. The patient's knees were bandaged together in the usual manner, and he was placed in bed with rather more care than usual, but in less than an hour it seemed as if the joint had lost its natural appearance again in a slight degree, and the apparatus was tightened. By next morning, however, it was too evident that the original displacement had again occurred, and to its fullest extent. This had taken place in spite of the greatest quietude on the part of the patient, who was a very intelligent, tractable person, and fully aware of the importance of keeping the joint unmoved. The manipulations were again tried several times, but without effect. The head of the bone seemed to move about freely in all directions, but could not be brought into the acetabulum. The limb was put up in the straight apparatus which we usually employ for fractures of the thigh, and extension, by the adhesive straps, was kept up so as to keep the parts, as nearly as possible, in proper position. A good deal of stiffness and swelling of the joint followed, which, however, subsided, and he was allowed to go about on the 30th of January. He finally gained about as much use of the joint as if there had been a fracture of the cervix femoris. I am informed, by Dr. Buck, that he has since gained a very excellent use of the limb.

CASE 4.—John Kelly, a labouring man, æt. 21, was admitted May 22d, 1853, having been knocked down by a horse-car, by which a luxation of the left hip had occurred into the ischiatic foramen. The limb was shortened about one inch, toes turned inward, and the head of the bone felt in its new situation. The reduction was attempted by the mode described above, the

man being fully relaxed by ether. The effect of the first attempt was to throw the head on to the obturator foramen, making the limb longer than the other, and producing the deformity characteristic of that dislocation. From this point, by a slight alteration of the movement, the head could be made to slip back to its original position. Between these two points it could be made to play backwards and forwards, but would not enter its socket. Dr. Post, in whose charge the patient was, then employed the usual mode of reduction, from the foramen ovale—viz., extension of the limb, combined with a lifting of the head of the bone over the edge of the acetabulum, by the help of a folded sheet passed round the upper part of the thigh. This proved successful, without resorting to the pullies. In this case the cure was very slow, and he left the hospital with some degree of pain and swelling about the joint. I learnt that an abscess formed in or about the joint, which was opened; and when I saw him a year after, there was every appearance of seated morbus coxarius.

CASE 5.—Michael Delany, a boy æt. 8, was admitted into the house June 29th, 1853, having received very severe injuries in falling from a ladder, at the height of the third story of a house, to the ground. There was found to be a bad compound fracture of the right thigh, and simple fracture of the left. When laid upon a bed, and his clothes removed, the right thigh, which was the seat of compound fracture, was found to be in an extraordinary position. It lay obliquely across the abdomen of the boy, with the leg and foot lying up by the axilla of the left side. On examination, it was discovered that this singular position was rendered possible by the fact that the head of the femur was dislocated backwards and upwards on the dorsum ilii. The house surgeon, to whose care the case fell on admission, took the injured limb in his hands and very carefully carried it over the abdomen to the right side, and then abducted it and brought it down towards the straight position, thereby completing the steps of Reid's manipulation, which accident had already commenced. In doing this, the head of the bone slipped into its place, and the hip gave no further trouble. The fractures of both thighs went on favorably towards a cure, and he was discharged well, August 23d, 1853.

CASE 7.—Francis Cotbunger, an Irish turner, was admitted to the New York Hospital, December 12th, 1853, with a dislocation of the right hip. The accident had occurred about four weeks previously, and had been treated in the country, as a sprain, by leeches, &c. The limb was lengthened, the toes everted, and the whole limb stood off from the body abducted, and slightly flexed, symptoms which clearly showed that the head of the bone was upon the foramen ovale. The patient being fully brought under the influence of ether, a manipulation the reverse of Reid's was employed by Dr. Haisted. The leg being bent upon the thigh, the thigh was gradually flexed upon the trunk until the knee touched the thorax. The limb was then brought down, forcibly adducted, into the straight position. By this the head of the femur was moved from the foramen ovale on to the dorsum ilii. Being in this situation, Reid's method was adopted, with the effect, however, of bringing back the head to its original position on the foramen ovale. By a repetition of the first manœuvre, it was again thrown on the dorsum, and from there, by Reid's plan, again thrown back upon the foramen. After repeated attempts, the bone was finally reduced by the pullies from the dorsum in the usual way, this being the only instance in which the pulleys or Jarvis's adjuster have been used, since our attention has been called to the new plan. It will be noticed, however, that the limb was every time brought down in a state of forced abduction; the moderate abduction found

successful in Gallagher's case, No. 6, was not tried. A good deal of swelling and pain in the joint followed these various operations. He was up and about, however, by the 5th of January, and on the 13th he was discharged, cured.

CASE 14.—Patrick Barry, æt. 42, was admitted to the New York Hospital, October 23, 1854, with a dislocation of the left femur, which had occurred seven weeks previously, by a fall from a rail-car while it was in motion. The symptoms were unequivocal, the limb being shortened $1\frac{3}{4}$ inches, the ball of the great toe resting on the instep of the sound foot, and the head of the bone being distinctly felt upon the dorsum of the ilium. The patient was a man of good muscular development, but the injured limb was somewhat wasted and flabby from inaction. Two days after admission he was put under the influence of ether, and Reid's manipulation was tried. The head descended as usual, until it came opposite to the lower margin of the acetabulum, but from that point, as the limb was brought down, it slipped on to the foramen ovale. The manipulation was repeated several times, with all care, varying the degree of abduction on the various trials, but without success. It was impossible to make the head rise over the lower border of the acetabulum so as to slip into its place. After numerous thorough and careful trials, the manipulation was abandoned, and the pulleys ordered to be applied. Before this was done, it was thought best to place the head of the bone on the foramen ovale, and from that point to try and reduce it by the usual method recommended by Sir Astley Cooper. The head was accordingly placed on the foramen, and while the upper part of the thigh was grasped by an assistant and lifted strongly outwards, I took hold of the ankle and made extension and adduction. The head seemed not to move at all under this force, and while making strong adduction a crack was heard, everything became loose about the joint, and, on examination, it was evident that a fracture of the cervix had taken place, leaving the head in the foramen ovale. There was nothing further to be done but to put the limb up in the straight apparatus, hoping that, if we could obtain union, he would have as useful a limb as those ordinarily left by fracture of the cervix, and certainly a better limb than if the dislocation had been untouched. Thus far, November 25th, everything has gone well, and promises union, with a shortening of about an inch. I am sorry that we must accept this case as one of failure of the new plan after what we considered a fair trial; for myself, however, I do most profoundly believe that it failed simply because we have not yet learned enough about the manipulation to adapt it to the condition of parts concerned in this particular instance. That we shall yet acquire that knowledge, I see no reasonable ground to doubt. With regard to the fracture of the cervix, we were all surprised at the slight amount of the force which was competent to produce such a mortifying accident. It adds double force to the caution given above, when speaking of the possibility of that accident, and it is not a little remarkable, that the paragraph containing that caution was written on the very morning of the day when the production of the fracture verified the necessity of the warning. Dr. Watson, in a note to me, speaks of a fact, which he says, "I have on undoubted authority—viz., from one of the professors in the School of Medicine in Toronto, Ca.—that an accident, similar to that of Case 14, occurred in that city, while the surgeon was attempting to reduce a luxation of the hip by Reid's method." Finally, it must be observed that the new plan is entitled to none of the blame of the fractured cervix. The accident took place after Reid's manipulation was abandoned, and while we were attempting the reduction according to the old established and classical method.

“With regard to the rationale of the process,” writes Dr. Markoe, “most of those who have written on this matter are in the main points agreed. The head of a dislocated femur is retained in its new position by a mechanism which does not exist in any other joint, and which is produced by the fact of the muscles not being inserted into the head, but into the trochanter, nearly three inches from the head, and that from this point of principal muscular insertion the neck goes off at a large angle from the axis of the shaft. From this, it happens that when the head of the femur is thrown out of its socket, the trochanter no longer stands out more prominent than before, but being held firmly by the muscles which are inserted into its base, is prevented from rising any more than enough to let the head out of the acetabulum, while the head and neck, slipping to the one side or the other, are found lying in such a manner that the side of the head, neck, and trochanter, are in contact with some part of the outer surface of the pelvis, varying, of course, in the different forms of luxation. This being borne in mind, it will be clear that any attempt at reduction, which merely brings the head of the bone to the acetabulum, will not succeed in making it enter that cavity, because of the lying-down position of the neck and trochanter against the side of the pelvis. We need, therefore, not only to bring the head over the socket, but at the same time to raise up the trochanter and neck, so as to allow the head to enter. Now, in the ordinary methods of reduction, this raising up of the trochanter, so as to put the neck in the proper direction for the head to enter its socket, is done first, by the action of the pulleys, and the approximation of the head to the socket is done second, by the continuation of the extension. This raising of the trochanter is, of course, opposed strongly by the muscles inserted into its base, causing the head to be pressed more and more firmly against the pelvis, and increasing the friction, and thereby causing by far the greater part of the difficulty in bringing down the head to the level of the acetabulum. It is in this principally, and I am myself disposed to say only, that any active muscular contraction opposes the reduction of a dislocation of the hip-joint. True, the large muscles around the joint are thrown into action as soon as extension is made; but this is an action excited by the extension, and that it is a very feeble opposing force is evidenced by the facility with which these muscles give way to the force of a single unaided arm, when a fracture of the neck of the femur is concerned, in which, of course, none of the friction alluded to can occur. This comparative action of the muscles, in fracture and in dislocation, is very strongly and appropriately insisted upon by Dr. Reid.

The process by manipulation avoids this main difficulty, and, as it were, eludes the opposition of the muscles. The trochanter, being fixed by the insertion into its base of the pyriformis, the two obturators, the gemelli, and the upper part of the quadratus, acts as a fixed point, or fulcrum, upon which, by moving the limb, the head of the bone can be made to describe a circle round the fulcrum. When we remember that this fulcrum is not, strictly speaking, a fixed point, but has a certain degree of motion of its own, we can easily see how, by means of this moveable fulcrum, the head of the bone can be placed, by varying the motions of the limb, on almost any point within two inches around the acetabulum, and, of course, over the acetabulum itself. If this mani-

pulation is made in such a way as not to raise the trochanter from lying against the pelvis, then, when the head comes over the acetabulum, a slight rotation, such as is given by the rocking motion employed, will sufficiently raise the trochanter to let the head slip in without provoking to opposition the trochanteric muscles, and if the movements be made in such a direction as to relax the stretched muscles, the whole may be accomplished without calling forth the slightest muscular opposition from the beginning to the end of the procedure. This principle in its application to the different forms of dislocation, presents some variations. In the dislocations on the dorsum, and on the ischiatic notch, for their mechanism is for our purpose identical, the principle has its best illustration; and if any one will take the skeleton or the dead subject, and go through the process, he will perceive that, by adduction, the tense rotators are relaxed, and that, by flexion of the thigh upon the trunk, the head is caused to pass down behind and below the acetabulum, and then, by carrying the knee out so as to abduct the limb, that the head comes toward the lower portion of the acetabulum, where its margin is least prominent. At this point, I wish it to be observed that our mode of procedure varies a little from Dr. Reid's. He recommends, when the head is brought by abduction close to the lower edge of the acetabulum, that, by the rocking movement already described, it be caused to slip in. This is well, and will probably answer in many cases, but it failed us so completely from the first, that we were led to add the bringing down of the thigh to the straight position in a state of abduction, still keeping up the rocking motion, and it has been uniformly in the act of thus bringing down the limb that the reduction has been accomplished. On looking at the parts in the dead subject, it will be seen that this movement of the limb, when the head has reached the lower margin of the acetabulum, tends directly to roll the head upwards over the edge and into the socket. The mechanism of the reduction from the foramen ovale has already been alluded to. I do not know of any case of reduction from the pubes."

In conclusion, we have to thank Dr. Markoe, on the part of English surgeons, for having so ably brought this important operative process before the attention of the profession.

1. *On Excision of the Knee-Joint.* By R. G. H. BUTCHER, Esq., Surgeon to Mercer's Hospital, Dublin, &c. ('Dublin Quarterly Journal of Medicine,' Feb. 1, 1855.)
2. *On Excision of the Knee-Joint.* By Professor SYME. ('Lancet,' April 21, 1855.)

1. In this article, Mr. Butcher relates a case in which he excised the knee-joint, and he makes this the text of an elaborate essay upon the subject. He gives summaries of all the cases in which the operation has been performed, and states the whole question with fullness and explicitness. He has also been at the pains to correspond with several surgeons who have had actual experience in the operation, and his pages give the results of this correspondence. Altogether, indeed, he has produced a most complete and valuable

essay, and we strongly recommend all those whose opinions are yet undecided upon the question of which it treats, to make themselves acquainted with it without delay.

We do not intend to enter into the particulars of the cases cited, not even of Mr. Butcher's; for so many cases have been already recorded, that it is no longer necessary to do this. All, indeed, that we need say of this case is, that the patient was a man, æt. 33, who had suffered from carious disease of the knee since childhood; that he was hectic and emaciated in a high degree at the time of the operation (Jan. 20, 1854); that he was in a state of dangerous prostration for three days after the operation, and that he only rallied by dint of liberal supplies of wine and food and opium: that the joint was free from all uneasiness, and perfectly firm, and the patient able to get about, with the assistance of a crutch, on the 20th of July; and that he left the hospital, on the 5th of September, quite well, except that there was still some discharge from one of the old sinuses. What we intend to do is to state the simple facts in their simplest guise, and leave our readers to form their own opinions upon them.

Mr. Butcher divides the institution of this operation for excision of the knee-joint into two distinct epochs—the first comprising all the cases operated on from the time of Park's first case, in 1781, up to the time of its abandonment, after Mr. Syme's failure in 1830; the second, including all those from the period of its revival by Mr. Fergusson, in 1850, up to the present time.

The following is a Table of the Cases operated on within the first epoch:—

Operation.	No. of Cases.	Results.
Mr. Park . .	2	1 cured, 1 died.
Filkin	1	cured.
The Moreaus	3	1 cured, 1 died from operation, 1 from dysentery when the limb was nearly well.
Mülder . . .	1	cured of operation, died of tetanus after delivery.
Fricke . . .	4	1 cured, 3 died.
Textor . . .	2	Both died.
Jaeger . . .	1	Cured.
Roux	1	Died.
Crampton .	2	1 cured, the other recovered from the operation, but was not cured.
Syme	2	1 cured, 1 died.

“On superficial inspection of this table, the results of the operation on the whole will appear decidedly unsatisfactory. However, on closely analysing the fatal cases, some will be found to bear but little upon the question of excision. Objection may be taken to Moreau's first case, for the patient died of epidemic dysentery. Immediately before he was attacked, his condition was most satisfactory; and the following is the statement made by Moreau:—‘The consolidation of the bones was such that I left the limb at liberty in bed; the patient moved it about

at his pleasure. I used the plank only in getting him out of bed. In short, I flattered myself that I should be able to make him walk upon crutches in a month or six weeks, but an event with which my operation had nothing to do deprived me of that satisfaction.' Again, in Mülder's case the patient died of tetanus, after delivery; a result which cannot fairly be ascribed to the particular operation executed. Every practical surgeon is aware that it may supervene after amputation. To support this view, I may here mention that Samuel Cooper gives a case where it came on after amputation of the thigh. And it may not be known to some, that the melancholy death of the late Earl of Darnley was from tetanus, consequent on having accidentally chopped off two of his toes with an axe. In some habits, a simple incised wound may give rise to tetanus. Cooper states that, 'in St. Bartholomew's Hospital it once followed the operation of removing the breast.' It likewise has been known to occur after the operation for hernia, and that required for ligaturing the larger arteries; these facts, then, forcibly substantiate the above view. After child-bearing it occasionally comes on; and to this cause, I think, we should attribute the death in Mülder's case. Sir Philip Crampton, in his remarks upon the first case in which he operated, admits that it 'was one to which the operation of excision was not applicable.' 'The disease had proceeded too far; for even had it been possible to have removed the whole of the diseased bone, and that union had taken place between the femur and the tibia, the limb, from its shortness, would have been useless. Add to this, that the highly scrofulous constitution of the patient, as evinced by the open sores on the hand, and ultimately by the disease of the lungs, was in the highest degree unfavorable to the restoration of the healthy action in the constitution and in the part which was essential to the reunion of the bones.' Why excision was ever performed in this case I cannot conceive; a faulty diagnosis might certainly have been made, but when once the bones were exposed, an opportunity was afforded of rectifying the error by amputation. 'For the extent of more than three inches above the condyles the femur was without periosteum, the purulent matter lying in contact with the naked bone.' And when, upon the saw being applied, and the section completed, here 'the cancelli of the cut surface of the femur were diseased and filled with pus, and the periosteum posteriorly detached from the bone, requiring an inch and a quarter more of the femur to be cut off.' Thus six inches of the femur were taken away, together with the articulating surface of the tibia, and 'about half an inch of the head of the tibia, the cancelli of which were loaded with lardaceous matter and with pus.' Every surgeon, I think, will agree with Sir Philip Crampton, that 'the case was one to which the operation of excision was not applicable.'

"Mr. Syme was the first surgeon who excised the knee-joint at the tender age of childhood. I think it very questionable how far the fatal issue in his second case should be ascribed to the operation of excision. The surgery of the case is imperfect and bad; for *after* the operation the limb was not placed in proper position, and the child was subjected to additional violence in eleven days after the first operation. 'On the 6th of January,' writes Mr. Syme, 'in order to prevent displacement of the bones, which all our efforts had been insufficient to

effect completely, I cut away about two inches of the femur with the pliers, and then observed, with much concern, that the bone was denuded beyond the farthest extent to which my finger could reach. The patient began to sink soon afterwards, and died on the 8th.' The result here might have been anticipated; for it was scarcely to be presumed that while the child lay prostrated by the fever of one severe operation, she could, with impunity, bear a second. I must leave the reader to judge whether this protracted and imperfect operation is a fair exposition of excision of the knee-joint as practised in the present day."

The second epoch includes all the operations since 1850—(See Table on following page.)

"The results from the annexed statistics, as summed up in this table, are most startling: 31 operations are recorded; out of this number 5 have died; but, as we dealt with the former table, the details of by-gone days, even so must we deal with this, the record of modern surgery, and in the same way scrutinise closely how far these deaths are to be attributed to the special operation executed. Exception, I think, may justly be taken to Mr. Jones's third case, and the death fairly ascribed to the epidemic dysentery of the day, which at this time raged with such fatality 'that few persons laboured under or died of any other disease.' Again, Mr. Fergusson's third case died from pyemia sixteen days after the operation. Every experienced surgeon is well acquainted with the fact, that after comparatively trifling operations, after the simplest amputation, pus may enter the circulation and destroy life. In illustration: very recently, in Mercer's Hospital, I amputated the forearm by double flap; a few seconds completed the task; the patient was healthy in every internal organ, and protected from any shock by the anæsthetic influence of chloroform. The case progressed most favorably, as was to have been anticipated, but this happy state lasted only some days, for soon a violent diarrhoea and shivering fit preceded the local change of a diffused inflammatory blush, an engorged and puffed condition of the wound,—tremblings and irregular shivering fits, with chattering of the teeth, contracted limbs with a morbid diminution of temperature, laboured and hurried breathing, with a small, soft, rapid pulse, at once awakened alarm in my mind as to the fatal blood-poisoning; the sunken, haggard countenance, the leaden hue, the hollow eyes, the contracted features; and later, the withered flabby aspect of the cut parts, exuding a grayish fetid discharge, attended with occasional delirium; rapidly accelerated and deeply laboured respirations alternating with expirations loaded with purulent fœtor, confirmed the opinion; while, on the thirteenth day preceding death, constant sharp screams escaped from the sufferer, shrill, ringing, unearthly. At this time the eyes had lost all their brightness; the corneæ were opaque, lids apart; the lips and teeth covered with a fuliginous paste: the limbs from time to time agitated by subsultus; and later, a deeper, a more prolonged, struggle terminated in death. Post-mortem examination revealed what the symptoms had so clearly portrayed—pyemia, the cause of death. The death in Mr. Mackenzie's third case is not to be laid down to the particular operation; so far as the condition of the limb went, all was most satisfactory, when violent diarrhoea attacked the patient, which

TABLE of all the Cases operated on within the Second Epoch, from July, 1850, to December, 1854 inclusive.

<i>Surgeon.</i>	<i>Hospitals.</i>	<i>Sex and Age.</i>	<i>Date of Operation.</i>	<i>Result as to Life</i>	<i>Condition of the Limb. Observations.</i>
Mr. Fergusson	King's College Hospital, London	M., 21	1850—July 20	Death	From operation.
Mr. Jones	Jersey Hospital	F., 25	Jan. 19 ¹	Cured	With perfect use of the limb.
Mr. Jones	Jersey Hospital	M., 11	1851—April 27	"	"
Mr. Jones	Jersey Hospital	F., 30	Sept. 4	Death	From epidemic dysentery.
Mr. Jones	Jersey Hospital	M., 7	1852—Jan. 25	Cured	With perfect use of the limb.
Mr. Page	Cumberland Infirmary	M., 14	June 7	"	"
Mr. Jones	Jersey Hospital	M., 20	Sept.	"	"
Mr. Fergusson	King's College Hospital, London	F., 21	Oct. 30	"	"
Mr. Mackenzie	Royal Infirmary, Edinburgh	M., 42	1853—Feb. 5	"	"
Dr. Pritchard	Hummanby Hospital, Yorkshire	M., 20	March 16	"	"
Mr. E. Thomas	Manchester Workhouse Hospital	M., 12	March 28	"	"
Mr. Fergusson	King's College Hospital, London	F., 28	April 2	Death	"
Mr. Jones	Jersey Hospital	M., 9	April 17	Cured	From pyæmia, sixteen days after the operation.
Mr. Mackenzie	Royal Infirmary, Edinburgh	M., 28	May 5	"	With perfect use of the limb.
Dr. Cotton	West Norfolk Hospital	M., 9½	Oct. 5	"	"
Mr. Gore	Bath Hospital	M., 14	Oct. 31	"	With a limb most useful in progression
Mr. E. Thomas	Manchester Workhouse Hospital	M., 16	Nov. 15	"	With perfect use of the limb.
Dr. Keith	Royal Infirmary, Aberdeen	M., 9	Nov. 26	Under treatment	Recovery.
Mr. Mackenzie	Royal Infirmary, Edinburgh	M., 18	Dec. 24	Cured	With perfect use of the limb.
				Death	Twenty-four days after operation, from exhaustion consequent upon obstinate diarrhœa.
Dr. Stewart	Belfast Hospital	—	—	—	Said to be "encouraging."
Mr. Butcher	Mercer's Hospital, Dublin	M., 33	1854—Jan. 20	Cured	With perfect use of the limb.
Mr. Erichsen	University College Hospital, London	M., 7	Feb. 15	"	Perfect ankylosis. Use of the limb delayed by severe erysipelas.
Mr. Pemberton	Birmingham General Hospital	M., 12	Feb. 8	"	With perfect use of the limb.
Mr. Mackenzie	Royal Infirmary, Edinburgh	M., 12	April 15	Death	From phthisis, twelve days after the operation.
					Operation warranted to relieve agony.
Dr. Keith	Royal Infirmary, Aberdeen	M., 14½	May 17	Cured	With perfect use of the limb.
Mr. Jones	Jersey Hospital	F., 16	July	Under treatment	Recovering rapidly.
Mr. Fergusson	King's College Hospital, London	M., 10	July 29	"	"
Mr. Holt	Westminster Hospital, London	M., 8	Aug. 7	Rapidly recovering	After six weeks, bones ankylosed.
Mr. Statham	University College Hospital, London	F., 20	Aug. 28	"	Union between the bones complete.
Mr. Smith	Westminster General Dispensary, London	M., 6	Oct. 18	"	Union between the bones far advanced.
Mr. Erichsen	University College Hospital, London	M., 6	Oct. 11	"	Good ankylosis; nearly quite firm.

proved fatal on the twenty-fourth day. Mr. Mackenzie's fourth case, would have died whether operated on or not; certainly the rapid death cannot be ascribed to the particular operation performed. Far be it from me to throw even the semblance of censure upon one of such admitted ability; of course, from the physical signs on examination, this accomplished surgeon was perfectly conversant with the diseased condition of the thoracic viscera, and most likely removed the joint, the cause of excruciating suffering, of intolerable agony, on the same principle that amputation is justifiably performed even in cases hopeless as to ultimate recovery. Thus, then, out of 31 operations, 25 have recovered, out of which 17 are walking about with perfect use of the limb; 6 have been operated on since August last; yet in 4 of these union between the bones is already accomplished, and the remaining 2 are rapidly recovering. One case, operated on in November, 1853, is still under treatment, from numerous complications having arisen, and 1 is said to be "encouraging;" 1 has died from epidemic dysentery; 1 from pyemia; 1 from obstinate diarrhœa; 1 from phthisis, twelve days after the operation was performed to mitigate excessive agony; and 1 from the immediate effects of the operation.

2. Mr. Syme's remarks upon excision of the knee-joint are to be found in a clinical lecture. Mr. Syme still thinks the operation to be inexpedient, and for these reasons. "In the first place, it appears that there is much more danger connected with excision of the knee-joint than with amputation of the thigh. In the second place, the cure is far more protracted, tedious, and troublesome. Thirdly, the result is very apt to be unsatisfactory. And, lastly, the limb, in its most favorable condition, must require so much careful attention to protect it against the effects of injury and exertion, as, in my opinion, to be less useful than an artificial substitute."

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

Chloroform; its properties and safety in Childbirth. By E. W. MURPHY, A.M., M.D., Professor of Midwifery in University College, London, &c. (12mo, London, Walton and Maberly, pp. 72, 1855).

The object of this little work is not to continue a controversy on the merits or demerits of anæsthetics under these circumstances, but rather to assist the inquirer who is anxious to give it a fair trial, but who is intimidated from want of experience. After some introductory remarks, mainly of an historical character, Dr. Murphy proceeds to explain the properties, the obstetric uses, the advantages and disadvantages, and the objections to chloroform; and out of these materials he furnishes a pleasant and readable book which is perfectly adapted to the end for which it is intended.

The rules which Dr. Murphy lays down for the administration of chloroform are:—

“RULE 1.—Let chloroform be pure. If rubbed on the hands, the smell should be fragrant, not pungent, like sulphuric æther. If inspired from the inhaler, there is a sense of warmth in the mouth, a fruity flavour, no pungency; if the strength of the vapour be sufficient, it will excite slight cough, but if impure, the cough is irritating.

“Let the sponge of the inhaler be placed in warm water, and then wrung dry. About thirty minims may be poured upon it, which is sufficient in the first instance.

“2.—When labour has commenced, do not interfere so long as the patient bears her pains well; if she be not teased with short, very severe, and inefficient pains, chloroform need not be given. If, on the contrary, the severity of the first stage be such, the anguish of the patient so great, that pain is evidently a cause of protraction, chloroform may be given with great benefit.

“3.—Always commence with a small dose, about thirty minims; if it agree with the patient, no inconvenience is caused, but she will generally complain that it is doing no good; the quantity may then be increased until, on inhalation, the exhibitor finds that she cannot take a full inspiration without cough.

“4.—In the second stage of labour, chloroform is given when the head is approaching the perinæum, or before then, if the pains become intolerable. This may be known, not merely by their greater intensity

while the uterus is in action, but also by the restlessness of the patient in the intervals. She is watchful, dispirited, still crying, but in a more subdued tone, from pain and a feeling of soreness.

“5.—When the head arrives at the perinæum, chloroform may be given in a fuller dose, if it have not already accumulated. The perinæum yields more easily under its influence, and the severity of the pain is controlled without any loss of force.

“This rule applies especially to cases in which powerful forcing pains are acting against the perinæum at the hazard of its laceration.

“6.—When operations are necessary, if they are not severe—as, for instance, some forceps operations—chloroform may be given in the same manner as in natural labour; but always after the instrument is applied.

“If severe, it may be given as in surgical operations, but not to the same extent. Hence an assistant is necessary, who is quite conversant with the properties of this anæsthetic. It is obvious that the same person cannot operate and give, simultaneously, the full soporific dose of this agent.

“7.—The inhaler should be applied to the mouth just before the pain commences, two or three full inspirations taken, and the moment the action of the uterus ceases it should be withdrawn. The inhaler should never be applied in the interval between the pains, and if used in the middle of a pain, the cries of the patient blow away the vapour, and no relief is given.

“8.—When inhalation has been continued in this interrupted manner for some time, if any alteration be observed in the countenance or manner of the patient; if the face is flushed, or bloated, or tinged with a slight lividity; if she ramble, or become hysterical, let the inhaler be withdrawn, and the face of the patient fanned. Wait until the pains return to their original severity before renewing the inhalation, when it is probable that these symptoms will not return.

“9.—In some instances, the patient is very intolerant of her pains, and if given chloroform to relieve them, she becomes hysterical, crying, perhaps, louder than before it was inhaled. In these cases, it is better to induce sopor, which may be easily done without stertor. For this purpose, a sponge and folded handkerchief applied to the nostrils is preferable to the inhaler. Whenever sopor is brought on, the closest attention should be given to the countenance—observe the irritability of the eyelids; to the respiration—notice its frequency, and especially stertor; to the pulse—mark its strength. The handkerchief should always be held at a distance at first, and be gradually brought nearer, but the sponge should never be applied quite close to the nostrils.

“10.—There should be the freest circulation of air in the apartment; and if, after delivery, there should be any feeling of faintness or nausea, ammonia in effervescence will relieve it.”

By ordinary caution and attention to these rules, Dr. Murphy thinks that chloroform may be administered *with perfect safety and with great advantage* in childbirth.

On the Statics of Pregnancy. By MATTHEWS DUNCAN, M.D., Lecturer on Midwifery, &c. ('Edinburgh Medical and Surgical Journal,' January, 1855.)

The object of this paper is to record observations on the three following subjects:—

1. On the position of the uterus.
2. On the position of the fœtus in utero.
3. On the position of the pregnant female.

1. With regard to the position of the uterus, Dr. Duncan points out that the uterus is developed into the abdomen in the direction of the axis of the brim of the pelvis, *i. e.*, at about an angle of 30° to the horizon, the brim of the pelvis being inclined to the horizon at an angle of above 60° . From these circumstances he shows that the brim of the pelvis is in no sense *the* part supporting the uterus. The uterus is supported on every side by the parts surrounding it much in the same way as a body floating and immersed is supported. The anterior abdominal flap being beneath the centre of gravity of the organ, is the part bearing the chief weight of the uterus. These circumstances afford an explanation of pendulous belly and of the pain produced in the sides by the dragging at the insertion of the oblique muscles of the abdomen. The long axis of the uterus is inclined to the horizon in the erect position of the female at an angle of 30° , in the supine position it is more nearly vertical, being inclined at an angle of about 60° . 2. As to the position of the child, Dr. Duncan says, that the child in utero neither stands on its head nor carries itself in any position, but floats reposing in the liquor amnii in the attitude of stablest equilibrium, *viz.*, in an oblique direction with its head lowest. From experiments which he has made, he finds the fresh fœtus at the full time to float freely in a solution of salt of about its own specific gravity, in about the same position that is assumed in the pregnant female. Hydrocephalic children with large and heavy heads, have been supposed to illustrate, by the frequency of their mal-presentation, the theory that the gravitation of their heads is not the cause of the ordinary position of the fœtus in utero. But their heads though heavier in air, are much lighter when floating in liquor amnii from the low specific gravity of the contained fluid. Consequently their mal-presentations can be equally well accounted for on the common laws of physics. Dr. Duncan shows that the statistics used by Dubois and others, to prove the uterine positions of premature fœtuses, afford no reliable conclusions. They show only the positions during abortion or miscarriage, but nothing in regard to the position in utero, before abortion or miscarriage. The statistics used by the same individuals, and their reasonings in regard to dead fœtuses, are illogical, seeing that the altered statical circumstances of such fœtuses were not known. Their frequent mal-presentations are probably the result of their altered circumstances. The uterus at the time when the child was becoming fixed in its position, was an oval cavity, with rounded glabrous walls, filled with a dense fluid, in which the fœtus floated easily, with its legs, its chief organs of locomotion, highest. In these circumstances, it is almost impossible to conceive of its assuming, much less of its

maintaining, any position against the influence of gravity. 3. Dr. Duncan last of all points out the condition of the erect position in the virgin; shows how they were altered in the pregnant female, and illustrates the new conditions of the erect positions in pregnancy. The centre of gravity might be retained in its usual site above the hip-joints, by the upper part of the trunk being moved backwards to counterbalance the pregnant womb. Or the centre of gravity might be moved forwards; in which case the hip-joints were moved forwards also, by the diminution of the inclination of the brim of the pelvis, as occurs in many cases of disease with anterior curvature of the spine.

This paper is illustrated by several diagrams.

The Pathology and Treatment of Leucorrhœa. By W. TYLER SMITH, M.D., L.R.C.P., Physician-Accoucheur to St. Mary's Hospital, &c. (8vo. London, Churchill, pp. 217; 1855.)

The outline of the principal points treated of in this work, is contained in a memoir presented to the Medico-Chirurgical Society in 1852, and printed in their 'Transactions.' This memoir was noticed at the time, ('Abstract,' XVI, p. 240), and to this abstract we must now refer our readers for any detailed account of the present work.

Dr. T. Smith is not at all disposed to believe that inflammation of the os and cervix uteri is a frequent cause of leucorrhœa. Many of the affections of the os and cervix recently stated to constitute ulceration of the surface, he believes to be only epithelial abrasions of more or less completeness. The importance and frequency of ulceration has been much exaggerated; and abrasions and superficial ulcerations, when they do occur, are more frequently secondary than primary disorders. The vaunted importance of inflammation as the great cause of uterine disorder must be altogether modified. In the author's opinion, the term "epithelial abrasion" would, in the great majority of cases, be substituted for "ulceration," and "irritation" and "relaxation" for "inflammation."

"The changes in the uterus," he says, "and the increased secretions of the uterus and vagina, found in cases of leucorrhœa, are not such as attend inflammation in other parts of the body. It is not after an attack of acknowledged metritis that leucorrhœa is most prone to occur. The discharge generally comes on in so slow a manner that its advent cannot often be referred to any particular date. No doubt in some cases—as after suppression of the catamenia from cold or imprudence, after abortion or parturition, or mechanical injury—a genuine inflammatory state lays the foundation of leucorrhœa, but the leucorrhœal discharge and the local irritation constantly remain long after the signs of positive inflammatory disease have passed away. Chronic irritation and relaxation rather than chronic inflammation, is the state which generally obtains under these circumstances. The most common and immediate cause of leucorrhœa, is simple irritation of the glands of the cervical canal, and many of the conditions described as inflammatory,

such as abrasions and indurations of the os and cervix uteri, are, as I have repeatedly observed, the results of the long-continued discharge, rather than of any inflammation occurring in the os and cervix as a primary affection."

The several chapters treat respectively of the minute anatomy of the parts concerned, and of the secretions of the different forms and sequelæ of leucorrhœa—of the relations between secondary syphilis and leucorrhœa,—of the relations of vaginal or epithelial leucorrhœa to gonorrhœa in the female, to urethritis in the male, and to the ophthalmia of new-born infants,—of the relations between leucorrhœa and disordered menstruation, sterility, and abortion,—of constitutional and local causes,—and, last of all, of treatment. All these questions are gone into fully and practically, and if our space permitted we would gladly have gone over them again. As it is, we must content ourselves with our previous notice, and a slight reference to the chapter on treatment.

In this chapter we are told that undue prominence must not be given either to constitutional or local treatment. There are few cases in which a tonic treatment is not called for, and no single remedy is of equal importance to steel. Even in the leucorrhœa of the plethoric habit it is often necessary to give iron in combination with aperients and alteratives. Iron alum, particularly the iron alum with ammonia is the preparation preferred.

Considerable value is ascribed to vaginal injections, and particularly to those containing alum and tannin.

"The injection which I have found most useful in cervical leucorrhœa," writes Dr. T. Smith, "is a solution of alum and tannin: \mathfrak{zj} to \mathfrak{zij} of tannin and \mathfrak{zss} of alum dissolved in a quart of water, is the strength I generally prescribe, directing one half to be used at night and the other in the morning. Mr. Morson has prepared a tannate of alumina, a chemical compound of tannic acid and alum, which is useful both as a medicine and as an injection; it requires, however, the addition of a little dilute sulphuric acid to render it soluble in water, whereas the sulphuric acid contained in common alum is sufficient to ensure the solution of powdered tannin and alum in water. This renders the prescription of alum and tannin in powder the most convenient for patients, but for internal administration, Mr. Morson's salt is a very elegant preparation. I generally recommend, where the discharge is profuse, the injection of a considerable quantity of cold or tepid water before the use of the astringent solution, with a view to clear the vagina and the os and cervix uteri as much as possible from discharge, when, as already-mentioned, the injection acts more efficiently. This injection, continued for two or three weeks, will scarcely fail to make an impression on the most profuse and long-continued discharge. Occasionally an astringent injection of this strength causes pain when first used; when this is the case, it should be diluted so as to avoid pain, and be gradually increased in strength.

"Solutions of sulphate of iron and sulphate of zinc, iodine, the diacetate of lead, and a variety of other medicinal substances, are recommended as astringent injections in leucorrhœa; but they are none of them equal to the tannic acid and alum. Sometimes, however, when the more powerful astringents fail, after a time, of their effect, it is very useful, as Dr. Ashwell has pointed out, to alternate from one injection to another.

In leucorrhœa attended by pain, the lead injection, combined with opium, is especially useful. The decoction of oak bark and alum was long the standard injection; but the oak bark and tormentilla, which is also sometimes used, are only efficacious from the quantity of tannin they contain; and it is better to use the tannin itself in solution than these decoctions. Injections of cold water simply, in considerable quantity, are often of great value in giving strength to the vaginal walls and the lower segment of the uterus, and in this way contributing to restrain excessive secretion. A solution of the nitrate of silver, injected in small quantities, has been a favorite remedy since the time of Dr. Jewell, and it is undoubtedly a powerful astringent; but as there is no sufficient object, in cervical leucorrhœa, in applying it to the vaginal walls, I consider, when this substance is used, it should be applied in solution, or the solid form, directly to the surface intended to receive it. Dr. Fleetwood Churchill states that he has repeatedly seen menorrhagia produced by injections of the nitrate of silver. Whenever a solution of the nitrate of silver is used, it should be applied through the speculum. When it is used by patients themselves with a sponge and a glass tube, it is, I suspect, more often applied to some part of the vaginal surface than to the os and cervix uteri.

"As regards the mode of using vaginal injections, the old-fashioned tubular glass and metallic syringes ought to be discarded altogether, except in cases when a powerful remedy is employed, and the effect is intended to be limited to the vagina. As far as the uterus is concerned, injections are well nigh useless, unless a copious and continued stream is directed against the os and cervix. Any enema syringe, to which a vaginal tube has been adapted, will serve very well for ordinary vaginal injections. The very ingenious syringe invented by Dr. Ivory Kennedy, if made of vulcanized indiarubber, is an excellent instrument for the purpose. By his syringe any quantity of fluid may be used. In some respects, however, the cylindrical pump syringe, made of indiarubber, and acting upon the same principle, is still more convenient than Dr. Kennedy's instrument. Any quantity of fluid may be thrown up, and as less force is required to empty it at each contraction, it is not so fatiguing as the globular syringe. Another method of injection is the syphon douche, largely used in this country by Dr. W. Jones. This plan has long been used in Holland, where leucorrhœa is very prevalent, by the Dutch physicians; but its use was revived by the late Professor Kiwisch, who employed it extensively in the treatment of uterine disease, as well as in the induction of premature labour. No muscular effort is required in the use of the douche, but it is more cumbrous and formal than the other methods. A modification of the douche has recently been devised by M. Gariel, in which, after the introduction of the vaginal tube, a circular air-cushion is placed round the tube, just within the ostium vaginæ, and inflated with air, so as to prevent the free return of the injection. The fluid is let off by a small tap, and by this modification the vagina is kept full of fluid during the use of the injection. I have no doubt this modification is calculated to prove of much service in cases of menorrhagia, or in the floodings of cancer uteri, as a means of keeping astringent solutions or iced water in continuous contact with the lower part of the uterus. In the employment of any of these means

of profusely injecting the vagina, great care should be taken when pregnancy exists, as any of them, and particularly the syphon douche, may bring on abortion. Several cases in which this accident has occurred have come to my knowledge. In common cases of cervical leucorrhœa, when the disorder consists chiefly in the excessive secretion of the mucous glands of the cervical canal, without any great loss of surface or alteration of structure, injections will almost always, combined with attention to the general health, restrain the discharge; and probably if vaginal injections of cold or tepid water, or some simple astringent solution,—which is nothing more than internal bathing,—were resorted to on the first appearance of vaginal discharge, confirmed cases of leucorrhœa would be much less frequent than they now are.”

Nor is Dr. T. Smith disposed to discard pessaries.

“The tendency has of late years been to discard pessaries altogether. It has been taken for granted that inflammation is the great source of uterine disorder, and it has in consequence been held absurd to subject patients suffering from leucorrhœa, to the mechanical irritation which pessaries necessarily induce to a greater or less extent. This appears plausible, and no doubt it applies with force to cases of great uterine irritation, and to pessaries which are objectionable on account of their form or material. But I believe that in practice, notwithstanding, pessaries are highly useful in many cases, and that we possess no means by which we can compensate for their use, in cases which require them. It is certain that in cases of procidentia uteri, when the os and cervix are exposed to the irritation of the external air, cervical leucorrhœa with abrasion of the os uteri are almost invariably present. The same things occur in simple prolapsus, from the irritation of the os uteri by the secretions of the lower part of the vagina. Some of the most troublesome instances of leucorrhœa met with in practice are of this latter kind. The best thing which can be done in such cases is to permanently lift the os and cervix uteri into the natural position, and to defend the lower part of the uterus as much as possible from the utero-vaginal discharges. I have found that when no other means will arrest the leucorrhœal discharge accompanying prolapsus, it often ceases after wearing a soft, well-adapted sponge pessary. In epithelial discharge from the vagina, also, when the surfaces are denuded of epithelium, soft pessaries are frequently useful, however much they may seem to be contraindicated in theory. Any irritation they may occasion is more than compensated for by their keeping the opposite surfaces of the vagina from coming into contact with each other. The vaginal secretions are so acrid in some of these cases, that even the finger smarts after making an examination.”

Again :

“The pessary which I find most useful in the treatment of leucorrhœa combined with prolapsus, is the simple sponge pessary, consisting of a round or oval piece of sponge, to which a tape or ribbon is attached. This is easy of introduction; it supports the os and cervix without causing any great degree of irritation; it absorbs the discharges; and it defends the walls of the vagina and the os and cervix uteri from coming into contact with each other. If the sponge could be deprived of its tendency to smell, it would, in my opinion, be invaluable in the treatment of disease of the os and cervix attended by prolapsus. The principle of

keeping the abraded or ulcerated os and cervix uteri free from the irritation of the vaginal discharges, is almost as important as the defence of external ulcers from the external air. By the sponge dressing, the worst cases of ulceration of the os and cervix uteri may sometimes be cured more readily than by the application of caustics. It acts in part in the same way as the charpie dressings of the French, and the dressings of uterine ulcerations and abrasions by lint, as practised with great success by the late Professor Kiwisch, while it has the great advantage that it can be introduced and withdrawn by the patient herself. The sponge pessary should be made of a small soft sponge in preference to a piece cut from a large sponge. It may be worn all day, or during the hours of walking and exercise, and at night it should be placed in cold water. Many women suffering from the different forms of leucorrhœa and disorder of the os and cervix, particularly when combined with weakness of the vaginal walls and prolapsus, can walk with comfort while wearing the sponge, who are unable to move without pain when the uterus is unsupported. Sometimes in cases when excessive irritation has been caused by a solution of the nitrate of silver and other astringents, I have had bad cases of abrasion of the os uteri accompanied by purulent discharge, dressed daily with lint, or with lint and some simple unguent, with the best effects.

"Some practitioners recommend the use of sponge pessaries, dipped in the decoction of tormentilla, or a solution of alum or tannin, but I think the clean sponge, wrung out of cold or tepid water, or smeared with oil, much more useful, as, if an astringent be used, it combines chemically with the animal matter of the sponge, and renders it so hard and inelastic as to irritate the vagina and os uteri almost as much as a wooden pessary."

Dr. T. Smith is not in favour of the use of the stronger caustics.

"In my opinion," he says, "there is no good which can be effected by the more powerful caustics, which cannot be accomplished by the nitrate of silver, or by other means. It is true that, by the prolonged application of the nitrate of silver, loss of substance may be caused, but this is far less likely to occur with lunar caustic than with the more powerful escharotics. It is also true that some practitioners apply the more violent caustics so lightly that they do not exceed the milder medical action of the solid nitrate of silver, but in such cases it would be quite as well to use the safer remedy where a caustic is required."

Dr. T. Smith, also, shows that the topical applications which are useful in cervical leucorrhœa cannot always be used in vaginal leucorrhœa.

"Almost all the astringent substances used for injections in cervical leucorrhœa have an acid reaction, and when the vaginal discharge is not purulent and alkaline, but is, on the contrary, very distinctly acid, injections of acid astringent solutions are irritating and injurious. In simple epithelial leucorrhœa of the vagina, when the lining membrane is intensely red, and the epithelium is thrown off in large quantities, either mixed up in plasma, or in the form of shreds and flakes, much benefit is derived from the use of weak alkaline injections, composed of the bicarbonate of soda or potash in barley water, linseed tea, or poppy

infusion. If an astrngent be used, I have found the solution of the diacetate of lead to be the best."

Dr. T. Smith also enters fully into the other questions connected with treatment, and there is no point from which much valuable information is not to be gained; but for these, as well as for other points, we must refer our readers to the book itself, and this we do with the conviction that the time will be well spent, which is given to its careful perusal.

IV.

REPORT ON MATERIA MEDICA AND THERAPEUTICS.

An Essay on the action of Medicines in the System. By FREDERICK W. HEADLAND, M.B., B.A., F.L.S. Second Edition, enlarged and revised. (8vo, Churchill, 1855, pp. 394.)

This work, of which the present is the second edition, is the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal, for 1852. It discusses the mode in which therapeutic agents, introduced into the stomach, produce their peculiar effects upon the animal economy; and this it does in a series of propositions, which will be best stated in the author's own words:

"In the *first proposition* it is affirmed that a medicine must (as a general rule) obtain entry into the fluids of the body—pass, that is, from the intestinal canal into the system at large—before its action can begin. There are four proofs of this. It is shown that when introduced at another part of the body a medicine acts in the same way as when placed in the stomach. It is found by direct experiment that a poison will not act through the medium of nerves only, but that its passage in the blood is required. Thirdly, the course of the circulation is quick enough for the most rapid poison or medicine to pass quite round the body from the veins of the stomach before it begins to operate. The last and most conclusive argument to show that medicines pass out of the stomach into the system, is that they have actually been detected by chemists, not only in the blood, but in the secretions formed from the blood. Remedies, then, pass from the stomach into the blood and fluids. How do they do so?

"In the *second proposition* it is laid down that all those which are soluble in water, or in the secretions of the stomach or intestines, pass through the coats of these organs into the interior of the capillary veins which surround them. It has already been shown that most medicines pass through in some way; we shall now have to learn how they pass, and what special arrangements are made for the passage of substances differing in nature. By the physical process of absorption, a liquid may pass through the animal membranes, from the interior of the stomach or intestine, to the interior of the small vein which lies close outside it. In examining the laws by which this process is conducted, we shall find that all the requirements are present in these parts, provided only that the substance to be absorbed shall be first in some way dissolved, and reduced to the liquid state. In the stomach there is, in contact with the substance just introduced, a thin

watery secretion, containing acid and a matter called pepsin: this is the gastric juice. A large number of medicines are soluble in water. They are dissolved in this fluid. Some others are soluble in dilute acid. These too are dissolved here. Albumen, and matters like it, are reduced to solution by the aid of the pepsin, which is the principle of digestion. But there are some few mineral bodies, and many vegetable substances, as fats and resins, which cannot be thus dissolved by the juice of the stomach. They are soluble, more or less, in a weak alkaline fluid; and such a fluid is the bile, which is poured out into the first portion of the intestine. They too are reduced to solution and absorbed. In this manner it is shown that a very great majority of remedial agents are capable of being reduced to solution, of being absorbed without material change, and of passing thus into the circulation.* Very few are quite insoluble; but some that are dissolved with difficulty may be left partly undissolved in the intestinal canal. What becomes of these?

“It is asserted in the *third proposition* that substances which are thus insoluble cannot pass into the circulation. Arguing from a physical law, we should say at once that it was impossible; but the matter cannot be so lightly dismissed, for a foreign professor has lately asserted that insoluble matters may and do pass into the circulation. I have made experiments to satisfy myself on the point, and have come to the contrary conclusion.

“In the *fourth proposition* it is stated that some few substances may act locally, by irritation or otherwise, on the mucous surface of the stomach or intestines. These are not many; they act without being absorbed; and they do not extend into the system at large. In some few cases, these local actions may be succeeded by changes in distant parts, on the principle of *revulsion*.

“Having just shown how medicinal substances are absorbed, we have now to suppose that they are in the blood.

“It is next maintained, in the *fifth proposition*, that the medicine, being in the blood, must permeate the mass of the circulation as far as to reach the part on which it tends to act. This it can easily do. The circulating blood will conduct it anywhere, in a very short time. Supposing a medicine has to act on the liver, or on the brain, or on the kidney, it does not influence these organs at a distance, but it passes directly to them in the blood, and then its operation is manifested. This may be called the rule of *local access*. Its proof depends on two things: on the improbability of the medicinal influence being able to reach the part in any other way, as shown in the first proposition; and on the fact of medicinal agents having been actually detected, in many cases, in the very organs over which they exert a special influence. But are there any exceptions to this? Can a

* There is no doubt that the small veins which ramify outside the coats of the stomach and intestines are capable of taking up any matters in a state of proper solution, even fats when dissolved in alkali. But are medicines ever taken up by the lacteal absorbents? Probably seldom or never; for it seems that these vessels are only engaged after a full meal, and subsequent to the regular formation of chyle. They do not exist in the coat of the stomach, but commence in the small intestine at some distance from the pylorus.

medicine ever produce an effect without actually reaching the part? It seems that there may be two exceptions. In some cases, an impression of *pain* may be transmitted along a nerve from one part to another; and in some other few instances, a muscle, when caused to contract by the influence of a medicine, may cause other muscles near it to contract by sympathy.

“Before we inquire into the remedial action of the medicine in the blood, we must consider whether that fluid may not first alter it in some way, so as to hinder or affect its operation. To a certain extent this is possible.

“In the *sixth proposition* it is asserted that while in the blood the medicine may undergo change, which change may or may not affect its influence. It will have to be shown that this change may be one of *combination*, as of an acid with an alkali; of *reconstruction*, when the elements of a body are arranged in a different way, without a material change in its medical properties, as when benzoic is changed into hippuric acid; or of *decomposition*, when a substance is altogether altered or destroyed, as when the vegetable acids are oxidized into carbonic acid.

“Having considered these preliminary matters, we shall arrive at the main point. The medicines are now in the blood. We must consider what becomes of them; what they do next; where they go next; and how they operate in the cure of diseases. I have made a classification in which medicines are divided according to my views of their mode of operation. The classes and their subdivisions will serve for references in illustration of what I have to say. For it is not possible to speak of the general operation of medicines without adducing particular instances; nor will time and space always allow me, in doing so, to refer to individual medicines.

“There are four great groups of medicines, the action of each of which is well marked and distinct. The first class acts on the blood; and as a large number of diseases depend on a fault in that fluid, we may by their means be enabled to remedy that fault. They are the most important of all medicines. They are called *Hæmatics*, or blood-medicines. They are used chiefly in chronic and constitutional disorders. But a second class of remedies are temporary in their action. They influence the nervous system, exciting it, depressing it, or otherwise altering its tone. They are chiefly useful in the temporary emergencies of acute disorders. They can seldom effect a permanent cure, unless when the contingency in which they are administered is also of a temporary nature. They are called *Neurotics*, or nerve-medicines. A third set of medicines, less extensive and less important than the others, acts upon muscular fibre, which is caused by them to contract. Involuntary muscular fibre exists in the coats of small blood-vessels; and in the ducts of glands. Thus *Astringents*, as these agents are called, are able, by contracting muscular fibre, and thus diminishing the calibre of these canals, to arrest hemorrhage in one case (when a small vessel is ruptured), and to prevent the outpouring of a secretion in another case.

“The fourth class is of considerable importance. Some medicines have the power of increasing the secretions which are formed from

the blood by various glands at different parts of the body. By their aid we may be enabled to eliminate from the blood a morbid material through the glands; or we may do great good by restoring a secretion when unnaturally suppressed. They are called Eliminatives. Like Hæmatics, their influence is more or less permanent. That of Neurotics and Astringents, particularly the former, is transient.

“The general mode of action of these four classes of therapeutic agents is laid down in the four remaining propositions, about as far as it seems to me to be capable of a positive definition. Each proposition concerns one of these classes of medicines. All I can now do is to recapitulate the chief affirmations made; as to give any idea of their proof would require me to enter into a number of details which had better be postponed to the third chapter.

“In the *seventh proposition* it is stated of Hæmatic medicines that they act while in the blood, over which fluid they exert an influence; and that their effect, whatever it be, is of a more or less permanent character. A line of distinction is drawn between two divisions of this class of blood-medicines. Some of them are natural to the blood; they resemble or coincide with certain substances that exist in that fluid; so that, having entered it, they may remain there, and are not necessarily excreted again. These are useful when the blood is wanting in one or more of its natural constituents. This want causes a disease, and may be supplied by the medicine, which in this way tends to cure the disease. Medicines of this division are called Restoratives; for they *restore* what is wanting.

“Some other blood-medicines, although they enter the blood, are not natural constituents of the vital fluid, and cannot remain there, for they are noxious and foreign to it. They must, sooner or later, be excreted from it by the glands. They are of use when disease depends on the presence and working in the blood of some morbid material or agency, which material or action they tend to counteract or destroy. They may be called *vital antidotes*; not strictly *specifics*, for they are not always efficacious, on account of variations in the animal poisons, or from the casual operation of disturbing causes. They are applicable in those many disorders which depend, not on the absence of a natural substance, but on the presence of an unnatural agent in the blood. These medicines are called Catalytics, from a Greek word which signifies *to break up* or *to destroy*. Having performed this their function, they then pass out of the blood.

“All this requires to be proved.

“In the *eighth proposition* it is stated of Neurotics, or nerve-medicines, that they act by passing out of the blood to the nerves, which they influence. This is only to insist on the rule of *local access*, already laid down in prop. 5. It is further affirmed that they are transitory in action. They appear to effect molecular changes in nerve-fibre, similar to those by which the phenomena of the senses are produced, and which are by nature transitory in their results. And yet they may be very powerful, even so as to extinguish vital force. Thus, short and unenduring as is the operation of these agents, it may last long enough to cause death, and so a temporary influence produce a permanent result. There are three divisions of Neurotics. The

first set are of use when there is a dangerous deficiency of vital action. These are Stimulants. They exalt nervous force, either of the whole nervous system, or only of a part of it. They vary very much in power. A second set, called Narcotics, first exalt nervous force, and then depress it. They have thus a double action; but they have also a peculiar influence over the functions of the brain, which is different from any possessed by other nerve-medicines. They control the intellectual part of the brain, as distinguished from its organic function; the powers of *mind* more than those of *life*. Some narcotics tend to produce inebriation; others, sleep; others, again, delirium. In the third place, some neurotics tend simply and primarily to depress nervous force. They may act on the whole nervous system, or on a part of it only. They are often very powerful; and they are of use when, from any cause, some part of the nervous system is over-excited. They are called Sedatives. Like other neurotics, they are used in medicine as temporary agents in temporary emergencies. If a permanent action be required, the remedy must be constantly administered, so that the effect may be kept up by continual repetition.

“In the *ninth proposition* it is affirmed of astringent medicines that they act by passing out of the blood to muscular fibre, which, by their contact, they excite to contraction. They do not so much influence the voluntary fibre of the muscles, which is under the direct control of the nervous system; but they chiefly manifest their action on the involuntary or unstriated muscular fibre, which is not directly controlled by the brain and nerve-centres, and for this reason more under the operation of external or irritating agents. Meeting this in the coats of the capillary vessels and of the ducts of glands, they are enabled to act as styptics, and as checkers of secretion. The action of astringents appears to depend on a chemical cause; for we find that all of them possess the power of coagulating albumen.

“The *tenth proposition* treats of Eliminatives. It is not said simply that these increase the secretions of a gland; or that they stimulate the glands while passing by them in the blood. But it is laid down as a rule that they act by themselves passing out of the blood through the glands, and that while so doing they excite them to the performance of their natural function. They are substances which are unnatural to the blood, and must therefore pass out of it. In so doing they tend to pass by some glands rather than by others: in these secretions they may be detected chemically; and it is on these glands that they have an especial influence. Their uses in treatment are various and manifold.”

After discussing these several propositions, the author concludes by treating of some of the more important medicines separately.

In reading through the volume, there are many places which we had marked for reference, but we have thought it better to give the preceding sketch of the objects and arguments of the book, and leave our readers to form their own impressions. As to our own impressions, suffice it to say, that they have been of a mixed character, in which feelings of satisfaction have undoubtedly predominated. We cannot go with the author in some directions, but we are willingly led by him in others. We have gained from him much light and infor-

mation respecting several intricate questions, and among them we would particularise two—the action of quinine and that of saline purgatives.

Arguing upon the strong resemblance which M. Liebig has shown to exist between the *taurine* of the bile and quinine, Dr. Headland suggests that quinine (and other simple bitters) may act beneficially by taking the place of taurine, and he supports this view by pointing out that the biliary secretion is deficient or deranged in the cases in which quinine is unequivocally beneficial.

“It is ascertained that many, if not all, of the diseases in which quina and its kindred medicines are found to be of use, are connected with a derangement of the secretory functions of the liver. One of these diseases is the debility which is consequent upon typhoid and other fevers. In these fevers the function of the liver is always more or less interfered with, though more obviously in some cases than in others. In strumous habits, in which generally bark is of signal service, and was very strongly recommended by Cullen, Fordyce, and others,—there is very commonly a peculiar degeneration of the liver, which has been ably described by Dr. G. Budd. This state is distinct from the fatty enlargement common in phthisis, in the early stage of which disease quinine is also very serviceable.

“Quinine is often beneficial in gout, in which the liver is always more or less deranged.

“Turning to periodic diseases, we find that impaired hepatic functions are the rule, and the absence of such disorder the exception. This will be at once admitted in the case of dysentery, and of the remittent and yellow fevers of the tropics. It is also true of ague. It seems even likely that the enlarged spleen may be partly caused by an obstruction to the circulation in the liver. This affection of the spleen is not uncommon in other liver diseases.

“In typhus fever both the spleen is disorganized and the liver deranged. It is observed in tropical countries that severe forms of remittent not unfrequently pass into continued fever, which seems to point to some analogy between the two. Ague even may pass into typhoid fever. And I have already referred to the fact that quina has of late been strongly recommended in the treatment of continued fevers in general.

“Dr. Watson states that in New Zealand the biliary functions suffer so much in the intermittent which occurs there, that it is known among the inhabitants by the name of the ‘Gall-fever.’ (‘Lectures on the Practice of Medicine,’ vol. i, p. 793.)

“Asiatic cholera is considered by many physicians to be a kind of terrible intermittent which seldom lasts beyond the second or cold stage. The secretion of bile is completely arrested during the continuance of the rice-water purging. Quina has been tried in cholera, and the beneficial results have been sufficiently marked to encourage us to give it a more extensive trial in the event of another visitation.

“Let us now place in conjunction with these facts, the similarity which has been pointed out between the bitter vegetable principles, and one of the chief constituents of the re-absorbed bile. Quina and

others resemble in many points a certain principle in the bile; they tend to cure certain diseases; and these diseases depend on deranged hepatic functions. Does not this suggest the possibility that they may be of service by actually forming the above principle, or by supplying its place in the blood? It is possible that such bodies as quina and cinchonia may be able to fulfil the functions of bile in the blood by remaining as they are, without even changing at all.

"It is just possible that the presence in the blood of the bile-product, the supply of which has been cut off by the hepatic disease, might have prevented the continual action of the ague-poison.

"There is another fact which gives additional probability to such an idea. Another remedy of a different kind has been used in all the diseases in which quina is admissible, proving in some cases superior, and in other instances second only to it in its beneficial action. This is mercury; used in remittent and yellow fevers; of the first importance in dysentery; employed by Dr. Baillie in ague, and pronounced by him to be in some cases superior even to quina. In small doses it is frequently of use in cases of debility and scrofula. And mercury is a cholagogue; *i. e.*, an agent which is known to have the effect of promoting the secretory function of the liver. Thus we may conceive that mercury, not given in excess, or to salivation, may operate in a different way to produce the same end as quina. One explanation will suffice for both.

"If this connection between tonics and the bile were actually established, then we should be enabled to explain a matter which would otherwise seem difficult to understand;—how it is that small doses of mercury may sometimes act as tonics, though we know that the ultimate action of this medicine, like that of other catalytics, is to deteriorate the blood. Even in scrofulous and enfeebled cases, small doses of blue pill or of calomel are often signally useful; and not prejudicial, as is sometimes stated by those who confound their application with that of mercury given in salivating doses. Under such a course, when judiciously enforced, we may see the dilated pupil contract to its normal size, and the pale enervated countenance become rosy and lively, and feel the weak compressible pulse to become hard and firm. Perhaps mercury in such a case may be indirectly tonic, by restoring to the blood the natural tonic principle of the bile.

The remarks upon the action of saline purgatives are very important, and they have the special merit of being founded upon some cleverly contrived original experiments. They altogether explode the idea that purgation from this cause is a simple question of exosmose of the serous parts of the blood through the intestinal walls to a fluid of greater density contained within the intestines. The experiments, indeed, seem to be quite conclusive as to the primary absorption and subsequent excretion of the purgative dose.

"If it be true," writes Dr. Headland, "that sulphate of magnesia, when given as a purgative, is first absorbed and afterwards again excreted into the cavity of the bowel,—then, if we could examine the alimentary canal which had received the salt, we should find, at a certain period after the reception of the latter, that it had more or

less completely disappeared by the process of absorption; and, at a certain later period, we should discover the same salt abundantly present in the cavity of the bowel, because now undergoing excretion from the blood. It is obviously impossible to make these observations on the same animal. The next best thing is to make use of animals in the same condition, and, as nearly as can be judged, of similar vital powers.

"I therefore chose three dogs, all in a state of health, and of the same size and condition. I administered to each of them, at the same time, a solution consisting of three drachms of sulphate of magnesia dissolved in three ounces of water (having the specific gravity 1.066). It had previously been ascertained that this dose produced purging in another dog in about three hours. The times for killing each of the three dogs were chosen accordingly. They were not allowed to live long enough for the production of purging; neither was anything lost by vomiting, or by want of care in the administration of the solution, which was done through a syringe.

"1. The first dog was killed after three quarters of an hour. The intestines were comparatively empty. From the stomach, bowels, and their contents, the soluble matters were extracted by repeated washing, and long maceration in water. These washings were filtered through a cloth, and then evaporated to dryness. The residue was again treated with water, and a clear solution then obtained by filtration. It was now precipitated by phosphate of soda and solution of ammonia, the precipitate washed with solution of muriate of ammonia, the ammonio-phosphate of magnesia dried, and ignited for some time in a platinum capsule. What remained was phosphate of magnesia. It was weighed, and the magnesia calculated from it. Another simple calculation gave the amount of the crystalline sulphate to which this corresponded. The result showed that only 55.928 grains of the salt remained in the intestinal canal out of the 180 grains administered.

"2. The second dog was killed after one hour and a half. The stomach and intestines were at once removed, and the latter found rather full. They were subjected to the same chemical analysis. The result was that 77.354 grains of sulphate of magnesia were found in the intestinal canal.

"3. The third dog was killed after two hours and a half. The bowels were found much distended. (This was shortly before the time at which purging had commenced in another animal.) The same process being followed, a quantity of magnesia indicating 96.985 grains of the crystallized sulphate was discovered in the stomach and bowels.

"From these experiments several things appear. The longer the time allowed after the administration of the dose, the larger the amount of salt discovered in the bowel. The shortest time left was three quarters of an hour. About 55 grains was then all that was left of the 180 grains given, the rest of which must have been absorbed, as none could have been lost in any other way. Three quarters of an hour further being allowed to the second dog, about 22 grains more are found in his intestines, which are more filled with faeces. From which I am led to suppose, that the minimum of the

salt to be found, or the maximum of absorption, in these animals, must have been between these two periods, or after about one hour. For at three quarters of an hour it is undergoing rapid absorption, and at one hour and a half it is being again excreted into the intestine. Again, after another hour, the contents of the intestines are increased, and the amount of the salt has risen to 96·98 grains. Purging would soon follow, and the excretory process, having already expelled from the circulation more than half of the sulphate which had entered it, would go on until the whole had been cast out in the same way."

We have said that we cannot go with Dr. Headland to some of his conclusions. We cannot, for instance, accept all he has to say about tannin *v.* gallic acid, at p. 288; for if gallic acid is a more efficacious internal remedy than tannin, we cannot see why it must be converted into a kind of quasi-tannin in order to be more efficacious. Nor can we agree to the therapeutical position assigned to alcohol, and to some other remedies. Unquestionably, however, we agree with him much more than we disagree, and we shut the book with the firm conviction that Dr. Headland has done good service to the cause of true therapeutics.

The Essentials of Materia Medica, Therapeutics, and the Pharmacopœias. For the use of students and practitioners. By ALFRED BARING GARROD, M.D., Professor of Materia Medica in University College, London, &c. (12mo, Walton and Maberly, 1855, pp. 282.)

This work is intended to serve the student as a text-book from which all unnecessary details are omitted, but which shall still be a sufficient guide to him both in his student career and afterwards. Accustomed to more bulky works, we at first wondered how one so little could be made to contain all the "essentials" of so comprehensive a subject; but, on beginning to read, we soon found that Dr. Garrod has really contrived to justify his title, and to produce a work which will be of great value to the student in preparing for his examinations, and to the practitioner who wants to refresh his memory in a hurry—a work which is all the more valuable on account of its modest dimensions. Whether these "essentials" are sufficient to *teach* the subject is another question; but our own impression is that more words are necessary to catch the inattentive ear and wandering attention of the young student. Be this as it may, however, it is certain that Dr. Garrod has produced a very valuable multum in parvo, and we all owe him many thanks for coming forward to rescue us from the wilderness of dead matter in which the "essentials" of materia medica are generally hidden.

Dr. Garrod adopts the natural-history arrangement, beginning with the non-metallic elements and compounds; and the subjoined specimens, taken at random, must serve to convey an idea of the manner in which he carries out his plan.

“*SARSA (JAMAICENSIS)*, *Lond.* The root of *Smilax officinalis*. *Sarsaparilla*; *Lin. Syst.*, *Dicæcia Hexandria*; grows in South America.

“*Description.* *Sarsaparilla* consists of the rhizome or root-stock, called also the chump, with numerous roots attached, generally several feet long, but of different lengths and thickness in different varieties; these roots often give off secondary rootlets, which are themselves again finely subdivided; they are then said to be bearded. On a transverse section of the roots they are seen to consist of a cortex or rind, and a ligneous cord, or medullium inclosing the pith. According to the different characters of these layers they have been classified by Dr. Pereira into the *mealy* and *non-mealy* sarsaparillas.

“The *mealy* varieties are distinguished by the large amount of starch contained in the inner cortical layers, which is sometimes equal in thickness to the medullium; they break with a starchy fracture; the cortex is often cracked transversely, and sometimes falls off; they have sometimes a swollen appearance, and hence are named gouty. If a drop of sulphuric acid be added to a transverse section, the mealy coat is unchanged, the ligneous zone becomes of a dark purple, and when a solution of iodine is applied the starchy layer becomes evident, from the formation of the blue iodide of amylin.

“The *mealy* varieties include the *Honduras*, the *Brazilian*, and the *Caraccas*, or gouty *Vera Cruz*.

“The *Honduras* occurs in bundles, about three feet long, composed of the folded roots, secured by a few circular twists; of a dirty brown colour, with many lateral fibres, but no chump; it is very mealy. It is brought from the Bay of Honduras. The botanical origin is doubtful.

“The *Brazilian* or *Lisbon* occurs in bundles, from three to five feet long, composed of the unfolded roots, bound together very tightly by a flexible stem; of a reddish-brown colour, with few rootlets. It comes from the Brazils, through Lisbon. It is probably derived from *Smilax papyracea* and *Smilax officinalis*.

“*Caraccas*, or gouty *Vera Cruz*. In bundles, two and a half feet long, and one foot broad, of a pale yellow colour. The chump is present, and it is very mealy. Derived from *Smilax officinalis* and syphilitica.

“In the *non-mealy* varieties the cortex is deeply coloured and not mealy. Although some starch granules can be detected under the microscope, still the number is comparatively few. The diameter of the medullium is generally four or five times greater than that of the cortex. Oil of vitrol applied to a transverse section causes both cortex and wood to become of a dark red tint, and iodine shows but a small amount of starch. Under this division are included the *Jamaica*, the *Lima*, and the *true* or *lean Vera Cruz*.

“The *Jamaica* occurs in bundles, from a foot to a foot and a half in length, with spirally twisted roots, folded, and numerous rootlets (*bearded*), of a red colour. It is derived from *Smilax officinalis*: it comes by way of Jamaica. This is the only officinal variety; it is stated in the Pharmacopœia to be of a reddish colour, not mealy, and with numerous rootlets. It yields much extractive matter.

“*Lima* *Sarsaparilla* occurs in bundles, about two or three feet long,

folded, with the chump in the interior, of greyish-brown colour; it is derived from *Smilax officinalis*.

"The *true Vera Cruz* is not often found in commerce; it is lean, unfolded, with few rootlets; the chump is present.

"*Prop. & Comp.* Sarsaparilla contains a volatile oil, starch, ligneous fibre, and a peculiar principle occurring as a white powder, *Smilacin*, of which little is known; soluble in hot water and alcohol, but almost insoluble in cold water; it colours sulphuric acid red.

"*Off. Prep.* **DECOCTUM SARSÆ, LOND.** Decoction of Sarsaparilla. (Sarsaparilla, ʒv; distilled water, Oiv. Boil down to two pints, and strain.)

"**DECOCTUM SARSÆ COMPOSITUM, LOND.** Compound Decoction of Sarsaparilla. (Boiling decoction of sarsaparilla, Oiv; sassafras sliced, guaiacum wood rasped, fresh liquorice bruised, each, ʒx; mezereon, ʒiij. Boil for fifteen minutes, and strain.)

"**EXTRACTUM SARSÆ LIQUIDUM, LOND.** Liquid Extract of Sarsaparilla. (Sarsaparilla, ℔iiss; distilled water, five gallons; rectified spirits, f.ʒij. Boil the sarsaparilla in three gallons of water to twelve pints, pour off the liquor, and strain while hot. Boil the sarsaparilla again in the remaining water down to half, and strain. Evaporate the mixed liquors to eighteen fluid ounces, and when the extract has cooled, add the spirit.)

"**SYRUPUS SARSÆ, LOND.** Syrup of Sarsaparilla. (Sarsaparilla, ℔iiss; distilled water, three gallons; sugar, ʒviij; rectified spirit, f.ʒij. Boil the sarsaparilla in two gallons of water down to a gallon, pour off the liquor, and strain while hot. Again boil the sarsaparilla in the remaining water down to half, and strain. Mix the liquors and evaporate to two pints, and in these dissolve the sugar. When they have cooled, add the spirit.)

"*Therapeutics.* Very little that is definite can be stated with regard to the action of sarsaparilla upon the animal economy; it is supposed to be diaphoretic, diuretic, tonic, and alterative. It is extensively employed in the treatment of secondary syphilis, but as it has been generally administered in combination with powerful remedies, it is difficult to ascertain how much influence this drug has had in the cure of the affection. By some practitioners sarsaparilla is regarded as a remedy of great value; by others as possessing but little power: as a rule, it is more relied on by surgeons than physicians. Sarsaparilla has also been given in cachectic conditions of the habit depending upon other causes, as in scrofula, &c.; and in the form of the compound decoction, in which other stimulant sudorific agents are present, in the chronic forms of rheumatism, gout, and skin diseases.

"*Dose.* Of either decoction, f.ʒiiss to f.ʒiv; of the liquid extract, f.ʒj to f.ʒiij; of the syrup, f.ʒss, upwards, usually an adjunct to the other preparations of sarsaparilla.

"*Adulteration.* Inferior kinds of sarsaparilla are substituted for the officinal Jamaica variety; these yield much less extractive matter; sometimes other substances are mixed with it, as dulcamara, &c., detected by the difference of structure."

* * * *

"**POTASSÆ NITRAS, Lond.** Nitrate of Potash; Nitre.

“Prep.” Certain soils in India contain nitrates of lime and potash; these, by being treated with wood ashes (carbonate of potash), yield nitrate of potash and carbonate of lime; the former is dissolved out and crystallized.

“Prop. & Comp.” Six-sided prisms, transparent, striated, with a peculiarly cooling taste, soluble in water, not precipitated by chloride of barium or nitrate of silver; fuses, but does not lose weight unless the heat is intense, when it gives off oxygen, and is converted into nitrite of potash, which last yields nitrous vapours when treated with sulphuric acid; deflagrates with heated charcoal, and forms carbonate of potash; when treated with sulphuric acid, it yields 85 per cent. of sulphate of potash. Nitric acid can be shown to be present by dissolving the salt in a little water, adding an equal bulk of sulphuric acid, and, when the mixture has cooled, a few drops of a solution of protosulphate of iron, a dark olive colour is produced, which is very characteristic.

“Therapeutics.” Nitre is refrigerant and diuretic; it also produces some alteration in the condition of the blood, and a powerful sedative action upon the heart and vascular system. It is used in small doses as a refrigerant and diuretic in febrile affections, to allay irritation of the mucous membrane of the stomach in inflammatory forms of dyspepsia; in large doses, as a vascular sedative in febrile affections, and especially in acute rheumatism. In dropsical affections, its action on the kidneys has sometimes proved useful.

“Dose.” Gr. v to ℥j, as a refrigerant and diuretic; ℥j to ʒj, as a vascular sedative.

“Adulteration.” It may contain traces of sulphate or chloride; detected by chloride of barium and nitrate of silver: lime, if present, would yield a precipitate with oxalate of ammonia.”

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“CAFFEINE, a principle obtained from coffee, or the berry of *Coffea Arabica*, a plant belonging to the order *Cinchonaceæ*, contained also in tea and *Ilex Parguensis* or Paraguay tea, *Paulinia sorbilis*, and other plants used by different nations to form beverages, has also been employed in medicine. When pure, *Caffeine* or *Theine* forms beautiful silky prisms, soluble in water, alcohol, and ether, precipitated by tannin, and sublimes when heated. Composition ($C_8 H_5 N_2 O_2$).

“Given internally, caffeine or a strong infusion containing it acts powerfully upon the nervous system, producing restlessness, palpitation of the heart, and other nervous symptoms. Caffeine also appears to possess the power of checking, in some measure, the changes or metamorphoses of the animal body, shown by the diminished formation of urea, which takes place under its employment. Coffee and caffeine may be given to relieve stupor from the use of opium or other narcotics, in nervous headaches, to arrest the paroxysms of spasmodic asthma, and in hooping-cough; also in some forms of intermittent affections. The action of caffeine requires further investigation, as in the infusions of coffee and tea a part of the influence may be due to the other constituents which are present.”

A Translation of the new London Pharmacopœia, including also the new Dublin and Edinburgh Pharmacopœias, with a full account of the Chemical and Medicinal Properties of their Contents; forming a complete Materia Medica. By J. BIRKBECK NEVINS, M.D., Lond., &c. (Second Edition, 12mo; Longman, Brown, Green, and Longmans, 1855, pp. 880.)

The arrangement adopted in this very useful work is the same as that of the London Pharmacopœia, the text of which is indicated throughout by being printed in large type; and the several articles of the materia medica are described in full under one or other of the preparations,—generally the most important. Thus, opium is described under the head of *Tincturæ Opii*; and cinchona and its alkaloids, under *Quinæ Disulphas*. The author has endeavoured to prevent any inconvenience which might arise from the arbitrary arrangement by means of a very complete index. It is stated in the title-page that the work contains the new Dublin and Edinburgh Pharmacopœias, but this statement is not strictly correct. Every formula requisite for dispensing a prescription contained in either of these is introduced; and whenever the pharmaceutical directions differ in any important respect from those of the London College, they are given in full; but when the directions for making certain articles, which are never prepared except by the wholesale chemist, differ very slightly from those of the London College, these differences are not given.

Now this work possesses several valuable features which will make it a favorite with the student.

One valuable feature is the succinct statement of the “*characteristic effects*” of remedies under a distinct heading. Thus under tobacco we find:

“*Characteristic effects.*—Vomiting, and intense muscular and vascular depression. It is *distinguished* from *digitalis* by producing greater muscular, and less vascular prostration; and in its greater effect upon the secretions generally; and from *belladonna* and *hyoscyamus*, by *contracting* the *pupil*.”

Under conium we find:

“*Characteristic effects.*—*Conia* causes rapid paralysis of the *muscular* system. The voluntary muscles are first paralysed, then the respiratory; next the diaphragm; and death ensues from asphyxia, caused by the cessation of respiration. The heart does not appear to be much affected. It does not produce insensibility, but the muscular paralysis prevents the expression of pain in animals under its influence. It causes coma, and sometimes raving delirium, and is a most active poison. One to five drops kill small animals in from two to ten minutes. It causes *dilatation* of the pupils.

“The general properties of the fresh plant agree with the above. It is thought to act especially upon the uterus, and is therefore frequently employed in cancer uteri to allay the pain, and also in

dysmenorrhœa. It sometimes causes diarrhœa; and occasionally, though rarely, convulsions. Under its use tumours, supposed to be cancerous, frequently disappear."

Under *hyoscyamus* we find:

"*Characteristic effects*.—Sedative, generally without causing headache or constipation. The delirium which a poisonous dose excites is of a *furious* character. It differs from opium in the first of these characters, and from belladonna in the last, as well as in being less acrid, and causing less dryness of the throat."

Another valuable feature is a separate statement of the articles with which any article may be confounded, wherever any confusion might arise. After describing the *digitalis* leaves, for instance, we have:

"*Leaves for which they may be mistaken* [the description being illustrated by cuts].—*Hyoscyamus* and *belladonna*; from which they are distinguished by the following characters:—*Several leaves* are generally united together by the bases, where they have been all cut at the same time, as the leaves arise from the *same portion of the stem*. *Hyoscyamus* and *belladonna* leaves are generally separate, as they grow alternately at *different heights* upon the stem. If the dried *digitalis* leaf be carefully unfolded, its *serrated* edge may be traced, whilst *belladonna* has a smooth *entire* edge, and *hyoscyamus* has a *smooth* edge, from which *large portions* appear to have been removed. The under surface of *digitalis* has a *white cottony* appearance, and the upper surface is a *dark green*. *Hyoscyamus* is *pale green*, and there is scarcely any difference between the colour of the two surfaces. *Belladonna* has a *darker* hue altogether, and has no *white* surface. *Digitalis* has *exceedingly reticulated* veins: *hyoscyamus* has a *single* prominent midrib and vein which proceeds down the centre of each lobe; *belladonna* has *not reticulated* veins, but they are *more compound* than those of *hyoscyamus*."

Again, under *Conium maculatum*, we have the distinctive features of this plant, and of the other umbelliferous plants with which it may be mistaken—the description in this case, also, assisted by cuts—clearly and succinctly stated:

"*Conium maculatum*. Stem smooth, spotted, *not swollen* below the leaves. Leaves tripinnate; dark green, shining sheathing; evolving a peculiar and disagreeable odour when rubbed. General involucre, three to seven leaved. Partial involucre, generally three leaved. Fruit, with undulated, crenated, primary ridges. *No vittæ*. The whole plant, when bruised, has a peculiar odour, resembling that of mice, or cat's urine.

"*Æthusa cynapium* is smaller, not being above twelve or eighteen inches high. It is effectually distinguished by the *three depending* leaflets in the partial involucre. Its leaves resemble those of conium.

"*Cicuta virosa*. Stem furrowed, *not spotted*; leaves ternate, not tripinnate. General involucre either *absent*, or consisting of only one or two leaves.

"*Ænanthe crocata*. Stem furrowed, not spotted, *swollen* below each joint. Leaves wedge-shaped, many cleft.

"*Chærophyllum* (*anthriscus*) *sylvestre*. Stem furrowed, and hairy;

not spotted, though frequently purplish in colour, but is *swollen* below each joint. *General involucre*, none.

“*Chærophyllum temulentum*. This is an exceedingly common plant, growing under every edge, and by the highway side, and is very likely to be mistaken for conium, as the stem is marked by numerous purple spots. It is however easily distinguished by the following characters :

Conium	spotted.
„	smooth.
„	not swelled below the joints.
Chærophyllum	spotted.
„	rough and hairy.
„	swollen below the joints.”

Another good feature is the addition to the chemical diagrams of arrows, the points of which indicate the nature of the result. When the arrow points upward it implies that a volatile product is obtained ; when it points downward it shows that a precipitate is formed.

The work also contains a tabulated catalogue of the *Materia Medica*, and the sketch of a therapeutical classification ; and, last of all, the printing and paper are very good. In a word, Dr. Nevins has presented us with a very readable and useful work.

The use of Alcoholic Drinks, and of Tea, Coffee, and Chocolate. By T. K. CHAMBERS, M.D., Physician to St. Mary's Hospital. ('*Medico-Chirurgical Review*,' October, 1854.)

This article is of much value and interest as supplying us with the most recent information respecting the real action of alcohol and other accessory articles of food upon the animal economy, and also as furnishing some important practical suggestions. The sources from whence Dr. Chambers derives his information are almost exclusively German, and especially from Dr. Böcker—a gentleman who has lately made himself the subject of many elaborate investigations, and who, by weighing his food, and estimating his excretions under different circumstances, has furnished us with a most invaluable set of facts.

In the first place, then, Dr. Böcker has found that the metamorphosis of his tissues is greatly increased by the use of water in excess. This is a very important fact ; for it follows that a person who drinks largely of water must have an extra allowance of food to supply the place of the tissues which are, as it were, washed away by the water. Hence to a poor man, as Dr. Chambers says, “an extra allowance of water can only be viewed in the light of an extravagance.”

It is the same with salt. Salt in proper quantity is an important element in the process of digestion, for it is a solvent of the albumen of the food ; but in excess it favours the solution of the tissues of the body, and necessitates a corresponding addition to the amount of food taken ; and hence a poor man ought not to take much salt, for the same reason that he ought not to take much water.

On the other hand, alcoholic drinks, with tea, coffee, and chocolate, possess powers antagonistic to, or contrasted with those of water and salt, and the direct consequence of their use is to economise the amount of food required by the wants of the system.

Experimenting with pure *alcohol*—a tea-spoonful of spirits of wine taken seven or eight times a day—Dr. Böcker found that the solid and fluid constituents of the urine, and the amount of carbonic acid exhaled by the lungs, were diminished; and that the cutaneous perspiration, the excretion of water by the lungs, and the fæcal excretions, were not increased. The action of *beer* was found to be in the main like that of pure alcohol, any marked difference being ascribable to the greater degree of dilution with the antagonistic agent water. There was one curious difference, however, and this was the greater amount of chloride of sodium excreted in the urine when beer was taken—a difference due in all probability to the extracts of hops or malt, or to the ethers present in beer. The action of wine, though agreeing in the main with pure alcohol and beer, had also some differences of its own.

“The wines employed by Dr. Böcker were Niersteiner, a good second-class white Rhenish wine, and Walportzheimer, a red wine, made indeed in the Rhine country, but from the Burgundy grape. From one and a half to two and a half bottles were drunk daily, without otherwise altering the diet. The results were in both cases a diminution of the quantity of carbonic acid expired, more marked, however, in the Walportzheimer than the Niersteiner; a striking diminution in the loss by earthy phosphates, and a scarcely perceptible alteration in the cutaneous, urinary, and fæcal excretions.”

The saccharine ingredients of alcoholic drinks exercise, no doubt, an important influence in the general result, for, on experimenting with sugar, Dr. Böcker found that it had the same power of restricting the waste of the system as alcohol. It was also found to restrict especially the waste of the bony tissues, for under its use there was a sensible diminution of the phosphates of the urine.

The salts present in wine must also exercise considerable influence in the matter, and we learn on the authority of the same experimenter that acetate of potass augments the general amount of solids in the urine, and chiefly by augmenting the chlorides; but, like sugar, it diminishes the amount of phosphates.

“There are, then, to be found in alcohol,” says Dr. Chambers, “real uses—it is a defence against the evils of defective nutrition dependent on either social or pathological causes, as well as a defence against the wear of the body by that immortal part which is indeed the end of our being. And in mixed alcoholic drinks we have presented to us modes of modifying these defences, so as to suit each particular case, whether national or individual. Surely then that is a truer philanthropy which turns its attention to increasing the variety and quantity of wholesome fermented liquors, than that which, by precept or example, endeavours to deter men from them altogether.”

Dr. Chambers also relates experiments, mainly by the same indefatigable observer, respecting the action of tea, coffee, and chocolate upon the system.

As regards *tea*, it is found that in ordinary doses it had no effect on the amount of carbonic acid expired, or upon the frequency of the respiration or the pulse,—that it very much reduces the loss of substance, as indicated by the amount of urea,—that it lessens the perspiration, and (in a still more remarkable degree) the amount of fæces excreted,—and that, therefore, the body is more likely to gain weight, the diet being insufficient, when tea is taken than when it is not taken.

The action of *coffee* upon the system, as shown in the experiments of Dr. Julius Lehmann, is substantially the same as that of tea in arresting the waste of the tissues; but it differs in the marked degree of excitement which is caused in the vascular and nervous system—an action which it is difficult to reconcile with the fact of diminished waste just mentioned.

Chocolate acts like tea and coffee; but the action is infinitely less marked; and, therefore, it cannot be regarded in the same economical point of view.

After having stated these and other particulars, Dr. Chambers proceeds to comment as follows:

“As respects the use of the three articles in a medical point of view, what has gone before indicates their mode of employment. When we desire to have the fullest physiological effects, with the least bulk, as a temporary medicine, we shall be best suited by strong infusion of tea; for in that the essential oil, which is shown before to be more energetic than the alkaloid, is predominant. If we would wish to choose as a daily drink that which is the most powerful of ordinary beverages, we may take coffee of the consistency it usually is. If we aim at a less vigorous action, it is afforded in tea made weak, according to the customary method. If this is too violent for the patient, and at the same time he rebels against plain water, we may compound the matter by getting him to take thin chocolate.

“We may also learn from the observed physiological actions to simplify very much the indications and contra-indications of the use of this class of beverages by the sick. Where, for instance, we would limit the loss of substance, as in consumptions, colliquative diseases, the emaciation of fevers, &c., the accessory drinks are most valuable; they will, in acute cases, save a life which hangs on a thread, in chronic cases prolong the days to an almost indefinite period. In persons who have no disorder admitting of nomenclature, but who are what they call ‘poor creatures,’ that is to say, unequal to ordinary exertion of mind or body without an exhausting loss of substance, an useless existence is often by these means made into real life.* The pathology of these cases, probably, is some incapability of taking up by absorption, or of making into blood, or of fixing in the solid tissues sufficient nutriment to supply the waste.† They are, therefore, always on insufficient diet, however much they put down

* What shall be said of diabetes? The decided arrest of emaciation which the writer has several times seen result from the use of bottled porter, in spite of the sugar in it, strongly inclines him to favour accessory drinks in that disease.

their throats. The obvious indication, then, is to limit the waste by some such means as the accessory foods. When, too, the nervous energy is sluggish, the circulation weak and slow, each may, by their cautious employment, be rendered normal. It is not necessary to quote instances of these facts, they are familiar to all as exemplified in the medical use of alcohol, but the same will also be found true of tea and its colleagues, in a minor degree, if we observe their actions. Of all, the great physical effect is to limit destructive absorption, increase nervous energy, and give mental pleasure. With equal clearness the contra-indications are pointed at by the experiments which have been detailed. When it is desirable that secretion should go on quicker, that destructive absorption should be encouraged for a shorter or longer period, then we must forbid accessory foods to a greater or less extent. In the hypertrophic temperament they are noxious; the present author has long been in the habit of forbidding tea, as well as alcohol, to obese persons, with striking advantage; and he thinks that good effect has followed its disuse in cases of thickened heart in muscular subjects, though of course the last result is difficult to trace. In gouty constitutions the whole class disagrees to a greater or less extent. Fermented liquids are pretty generally, in the present day, cautiously used by such patients, without our advice; but they are not aware of the objections which may lie against tea and coffee, and the chance of cure by giving them up. A temperate barrister, a college friend of the author's, of a gouty family, used to endure a martyrdom from acid eructations and vomiting, with gastrodynia, &c., till he adhered to cold water instead of tea, coffee, or chocolate at breakfast, when his symptoms ceased. In certain skin diseases, which appear to persist from defect of destructive absorption, water-drinking is often a most salutary temporary measure; when the nervous system is too sensitive, when the circulation too excited, tea and alcohol are equally injurious, and, *ceteris paribus*, should be abstained from. In fact, so many cases are benefited, that the homœopaths and hydropathists, whose whole secret lies in a combination of abstinence from accessory foods, with mental amusement, are able to vaunt their systems as an universal panacea. By the simple process of lying, wilfully or ignorantly, they succeed in easily overcoming a difficulty which gives us much trouble; they gladden the patient's heart, by inducing him to have faith in a panacea, and enjoy himself in the country, at the same time as they augment the destructive assimilation in the body. If we keep this in mind, we may usually succeed in attaining the same object in an honest way: but it requires much thought and contrivance on our part, and good sense on the part of the patient. The difficulty is obvious enough—a vast number of cases of disease exhibit deficient nervous energy at the same time as they require an augmentation of destructive secretion, and *vice versâ*, augmented excitability of nerve while the destruction demands arrest. Now, as the remedial discipline of accessory foods, or abstinence from them, combine the qualities in a *transverse* manner (that is, limited destruction and augmented nervous excitement, or augmented destruction and depression of nerve power), a very complex management of purely physical agents

becomes necessary to make them beneficial. But why should we confine ourselves to purely physical agents? Why should not the mind be made to reciprocate the many benefits it receives from its slave? Why should not the joys of an easy sociable life in a beautiful country, new faces, shady woods, and mountain breezes, be made available to rational medicine as well as to empiricism? It is certain that a 'rational establishment,' would in the end answer as well as a 'homœopathic,' or 'hydropathic establishment,' and the undertaking may be conscientiously recommended to our speculative friends, who can obtain a good site at a moderate rent."

1. *On Preserved Meat-juice.* By R. CHRISTISON, M.D., Professor of Materia Medica in the University of Edinburgh. ('Monthly Journal of Medicine,' January, 1855.)
2. *A new Broth for the Sick.* By JUSTUS LIEBIG. ('Annalen der Chemie' and 'Dublin Medical Press.')

These two articles serve to draw attention to a point of much practical importance in the treatment of disease, namely, the *modus operandi* of beef-tea. The general impression is that this tea is simply nutrient; but is it so? Dr. Christison says the quantity of solid matter contained in it is too insignificant to be of any value as nutriment, and believes that it must act, so to speak, as a "digestive ferment"—promoting the assimilation of other nutriment—or, like coffee, it must lessen the waste of the tissues in the exercise of their functions. We are inclined to adopt the former opinion,—indeed, it is an opinion which we had arrived at before knowing that it was held by any one else, and one naturally arising out of the investigations of Liebig upon digestion and assimilation. Arguing from the similarity which Liebig has shown to exist between gastric juice and the "juice of flesh," we had arrived without any effort of our own at the conclusion that beef-tea must act as supplementary gastric juice, and for some time past we have always made a point of giving food to be digested along with the beef-tea. We have also recommended the tea as a *tonic* in cases of debility where the stomach seemed to be unable to produce its solvent juices in sufficient quantity. Arguing from the known antiseptic properties of gastric juice, we have also thought that beef-tea might do good in some cases, as in fevers, not only as a solvent, but as an antiseptic.

1. Dr. Christison's paper upon *Preserved Meat-juice* is of much practical interest. "About eighteen months ago," he writes, "when consulted in the case of a relative of Mr. Gillon, the manufacturer of preserved meats at Leith, I found that the patient was entirely supported, in a severe illness, by the preserved juice of meat, which had been given at Mr. Gillon's suggestion. Observing the readiness with which it was taken when other food of every kind was refused, I was induced to try it in other instances, and eventually to employ it in various states of disease. The results led me to suggest the use of it to many professional friends, and to advise the druggists of Edinburgh

to keep it; so that it is now much in request, and may be easily obtained.

"This substance is the pure juice of beef, preserved in the way in which meats and vegetables are now so extensively preserved in the fresh state, for store provisions. The mode of preparation is as follows: Cylindrical cases of tinned iron are filled each with six pounds and a half of beef; and the lid is soldered on, but with a hole about half an inch in diameter in the middle of it. Two trays of such cases are shoved into iron retorts, analogous in form to retorts for gas-making, but double-cased, so that steam may be introduced into the interstice around. They are thus subjected to a heat of 220° under steam pressure, for about three hours; by which the beef is partially cooked, and, being thus also made to contract strongly on itself, squeezes out a portion of its juice, amounting to a few ounces from each tin. The tins are then drawn, the juice is poured out, and the meat, with certain additions, is subjected to the preservative process. The juice, after being cooled and entirely freed of fat, is put into small four-ounce tin cases. Each of these has a small aperture at one end, which is secured with solder after the juice is poured in. The tins are then subjected, on trays, to a temperature of 220° in a muriate of lime bath. On being removed, the solderer rapidly touches with his iron the solder on the top, which giving way allows steam to rush out forcibly and carry with it the air in the upper part of the interior. By the time he has thus swiftly passed over sixteen or twenty tins, the first is ready for being re-soldered by a similar dexterous application of his iron, which then in succession as quickly secures the whole open and steaming apertures. The process of heating in the bath, tapping, and re-soldering is then repeated a second time, to make sure of the thorough expulsion of every particle of air. The tins finally are painted to preserve them against rust.

"The process is most perfect. I have repeatedly opened tins eighteen months in my possession, and stated to have been many months in store when I got them, and in every instance the contents had the rich delicate aroma and taste of fresh beef-juice. Sometimes the taste is slightly resinous or soapy, in consequence of a little resin having obtained admission in the operation of soldering. But as this does not occur often, the impurity may be avoided with due care. The juice may be taken with relish in small quantity, either cold or warm, in its concentrated shape; but it is rather strong to be used without dilution. When diluted with three times its volume of boiling water, and duly seasoned with salt and pepper, it makes a more palatable beef-tea than any which can be made in the usual way. Sometimes, indeed, a patient will be found to prefer the ordinary sort, either because the preserved juice has unluckily been resinous, or on the principle that leads some people from the plains of England to prefer hard water to the pure mountain springs of the primitive districts of Scotland, viz., because they are not accustomed to the finer sort. But this is not the general fact; and there can be no doubt that the preserved meat-juice makes a most palatable beef-tea, and an equally eligible basis for many soups.

“Until about ten years ago, in concurrence with general opinion, I used to regard beef-tea as a highly nutritive article, not to be rashly or freely given during disease. My sentiments in this respect were shaken, when I ascertained, in the course of some experiments for adjusting the dietaries of the General Prison and the Royal Infirmary, that a pint of the very finest beef-tea contained scarcely a quarter of an ounce of anything but water. Since that time I have much more readily listened to the cravings of patients for beef-tea in even many acute diseases, and above all in protracted subacute diseases, and in chronic diseases with fever; and I have thought I saw that it maintains the strength almost like wine, lessens emaciation and weakness in tedious diseases, and does not occasion any increase of reaction. There is no disease in which these properties are more remarkably shown than in protracted cases of gastric fever, of which, by the way, I have seen an unusual number, both in town and country, during the last three years. These cases have often lasted for six weeks, or—with a relapse, from too early indulgence or exposure—for the long term of three months nearly; during which little, or absolutely nothing else, was taken, except beef-tea or diluted meat-juice; and without the attenuation and debility which so protracted a fever and want of appetite ought to have induced. In some instances I could scarcely doubt that life was preserved by this nutriment. It is unnecessary to particularise the various states of disease in which the same practice has been followed. It is peculiarly applicable to all subacute protracted diseases, whether febrile or otherwise; and in all such there is even no great reason to hesitate in resorting to it when local inflammation is present. Every one, I think, will be struck with the readiness with which such patients will often take diluted meat-juice or beef-tea repeatedly when they refuse all other kinds of food. It should be given in the quantity of a tea-cupful at a time, every four or six hours; but it is well to alternate it with other simple nourishment, when the patient will consent to do so.

“What is its mode of action? Not simply nutrient. A quarter of an ounce of the most nutritive material cannot nearly replace the daily wear and tear of the tissues in any circumstances. Possibly it belongs to a new denomination of remedies, whose action never was even suspected to exist until recently—those which, by some peculiar influence, diminish the waste of the tissues under the exercise of their functions. Professor Lehmann has proved (*‘Annalen der Chemie,’* 1853) that coffee possesses this singular property in so remarkable a degree, that in persons following an active occupation an infusion of an ounce of roasted coffee daily will reduce the daily waste by a fourth part; and the same property seems likewise to belong to tea, and other restorative beverages. It is not improbable that the sapid and saline principles of meat, united in what is called ozmazome, and constituting the ingredients of beef-tea and meat-juice, possess some such property. It is difficult otherwise to account for the interesting results obtained by the late Dr. Edwards in 1833, who, in his researches on nutrition—strangely overlooked by the celebrated Gelatin Commission of the French Institute, in their condemnatory report on

gelatin in 1841*—found that dogs die slowly if fed on bread and gelatin alone, but, when thus greatly reduced, quickly regain flesh and strength by the addition of two ounces of meat-tea, which cannot appreciably increase their textures by its own insignificant amount of solids.† Either it acts as a digestive ferment, so to speak—promoting the assimilation of other nutriment,—or, like coffee, it must lessen the waste of the tissues in the exercise of their functions.

“Mr. Gillon’s meat-juice contains only $6\frac{1}{2}$ per cent. of solids. As a mere nutrient, therefore, it is much in the same category with beef-tea. Sixteen ounces of beef-tea, made with the contents of one tin, yield only 114 grains of solid extract. It contains no fibrin, no albumen, no gelatin. It does not even gelatinize, on exposure to the air for days: it is ozmazome, with the salts and sapid and odorous principles of meat, and materially different from all boiled extracts.

“I should add, that no good beef-tea can be made so cheap as with this preserved meat-juice. A tin of four ounces makes sixteen of strong beef-tea. This much requires, in the ordinary way, a pound of the finest beef, which at present costs ninepence, and is scarcely ever so cheap as sixpence. The reason for the cheapness of Mr. Gillon’s meat-juice is, that the residual meat is economised, while that of the ordinary cooking process is good for nothing.

“It is a much more convenient article for use than any of the extracts made from meat by extemporaneous processes in the kitchen, or by certain very dubious chemical methods lately come into vogue. It differs materially from all meat-extracts prepared by boiling.”

2. M. Liebig suggests the use of beef-tea made with cold water; and this suggestion has, we believe, been carried out to a considerable extent in Germany. To prepare this broth, half a pound of the flesh of a recently killed animal (beef, or the flesh of a fowl) is chopped fine, and well mixed with a pound and an eighth of distilled water, to which four drops of pure muriatic acid, and from half to a drachm of common salt, have been added. After an hour, the whole is thrown on a common hair sieve, and the fluid is allowed to run off without pressure. The first portion, which is turbid, is poured back, until the fluid runs off clear. On to the fleshy residue in the sieve half a pound of distilled water is thrown in small portions. In this way a pound of fluid (cold extract of meat) is obtained of a red colour, and an agreeable taste of broth. The sick are allowed to drink a cupful, cold, at pleasure. It must not be heated, as it then becomes turbid, and deposits a thick coagulum of animal albumen and hematine.

With reference to this suggestion of M. Liebig, we would only add that beef-tea *ought* to be made with cold water if it supplies the place of gastric juice, for heat must damage its solvent powers; but we know of no experimental evidence on the subject.

* Comptes Rendus, &c., 1841, xiii, 243.

† Archives Gén. de Méd., N. S. i, 313.

On the employment of Wine as an Enema. By M. ARAN, Physician to the Hôpital St. Antonie at Paris. ('Bull. de Thérapeutique,' 15th and 30th January, 1855.)

After an extended experience during the last three or four years, M. Aran has satisfied himself of the great value of wine enemata in arresting diarrhœa, and in communicating strength to the patient.

He tells us that he has given wine with the most marked advantage during convalescence from acute diseases, and in chlorosis and phthisis. In chlorosis the results were so marked, that he even dispensed with iron, and trusted to the enemata alone.

He tells us, also, that these enemata were of especial use in obstinate cases of dyspepsia, where the general weakness of the system indicated the necessity of wine, but where the heat and irritability of the stomach were so increased by it as to contra-indicate its use.

Persons not accustomed to wine exhibited sometimes some symptoms of excitement after the enemata, but their stomachs were never disordered from this cause. There were no symptoms of excitement, however, when the quantity of wine was properly regulated. The wine was always mixed with water, and care was taken to prevent any loaded state of the bowel.

The advantages of this practice are self-evident, and we have no doubt that future experience will confirm all the anticipations of M. Aran.

On Digitaline. By R. CHRISTISON, M.D., Professor of Materia Medica in the University of Edinburgh. ('Edinburgh Monthly Journal of Medicine,' Jan., 1855.)

Digitalis is, no doubt, a most valuable diuretic. Dr. Christison says it is "the best diuretic which medicine yet possesses." Digitalis has, also, a very marked sedative action upon the heart; but it does not act upon the heart and kidneys at one and the same time, and if the heart is sensibly affected, we must not expect to have any marked degree of diuresis, or *v. v.* This fact, which is not very generally known, was noticed by Dr. Christison when a student in 1821, and has been insisted upon by him in his lectures since 1832.

Digitaline, the active principle of digitalis, was discovered, and its properties very carefully investigated, by MM. Homolle and Quevenne. It is clearly a principle of great energy and virtue, and we are glad to learn more about it from trustworthy sources. It occurs as a brown extractiform substance, and a pale greyish-white powder, and it is the former which was used by Dr. Christison; but the latter is to be preferred if it can be got.

"My experience of the effects of digitaline," writes Dr. Christison, "has been highly satisfactory. I have used it expressly as a diuretic only; but its sedative virtues have also come incidentally under observation; and it is quite evident that digitaline is a most energetic remedy in both ways.

“In the first two trials made with it, which were both of them in cases of extensive, protracted, obstinate œdema in connection with disease of the kidneys, diuresis commenced, in one towards the close of the second day, and in the other a day later; in both the flow of urine was profuse; and in both the œdema entirely disappeared, but with the slowness not uncommonly observed in this form of dropsy.

“Here I cannot help observing in passing, that a striking illustration was presented, on both these occasions, of the unsoundness of the objection which has been brought by many practitioners, since it was first propounded by Dr. Osborne, against the use of diuretics in the renal forms of dropsy. I have taken every opportunity, in my clinical lectures, and in occasional publications, to protest equally against the unsoundness of the theory and the looseness of the facts, which have led to the prohibition of diuretics in renal dropsy, and which have deprived many persons of the most immediate and most efficacious means of relief from the principal secondary affection occurring in Bright’s disease of the kidneys. And I may here repeat, in the strongest terms, that I have never, except in a single instance, seen the albuminosity of the urine, or any other indications—which either the other conditions of the urine or any other local symptoms can furnish,—increased under the employment of such diuretics as I have given in this disease. These are digitalis, squill, and bitartrate of potash, sometimes singly, more commonly combined. What may be the case with other diuretics, I shall not pretend to decide. I strongly suspect that they are all in the same category, and that they have been shunned on grounds purely theoretical and baseless. But at any rate I can answer for the theory not holding in the case of the three diuretics I have mentioned. So, too, in the case of digitaline. It is not a little remarkable that in the first two patients to whom I administered it, the albumen, instead of being increased, was quickly and greatly diminished. In one it disappeared entirely in a few days, and did not return so long as the patient remained under observation in convalescence. In the other it also disappeared; but after some days the albumen reappeared, though in a greatly diminished proportion. Digitaline, therefore, while it stimulates the kidneys to increased secretion, has not, in so doing, any effect, as some have thought of digitalis and diuretics at large, in increasing the peculiar renal irritation which constitutes or occasions Bright’s disease.

“Digitaline has proved equally, or even more serviceable in dropsy connected with disease of the heart. It has, in my hands, accomplished complete discharge of the dropsical effusions, and thus effected such relief as to enable the patient to return to his occupations, though given in circumstances apparently very desperate. In this respect digitaline has done no more than is often accomplished by foxglove itself. But it has appeared to me to act with more speed, and with greater force after the action did begin. In one instance, great depression of the heart’s action was brought on instead of a flow of urine.

“I have also given it in some local dropsies, more especially ascites, either simple or combined with anasarca of the lower part of the body

only. It has not proved more useful, however, as a diuretic in these cases than digitalis and other diuretics; which in general fail to influence the urine or remove the dropsical effusion, when given internally. I have not yet tried it externally, according to the method recommended by me with infusion of foxglove.*

"There can be no doubt that digitaline possesses the action of foxglove itself upon the heart and circulation. I have not made express trial of this action. But while using it to excite diuresis in a case of dropsy with diseased heart, the pulse began to flag, soon fell to 44, and became very soft and somewhat irregular. At the same time languor, nausea in a slight degree, and faintness ensued. All these symptoms disappeared in a few days after the remedy was discontinued. On this occasion I observed that the two actions of digitaline, its diuretic and sedative actions, do not concur. It is very likely that they are even incompatible. This I have formerly stated to be a probable fact in regard to the actions of foxglove.† The disregard of it is, I apprehend, the reason why some underrate the efficacy of foxglove as a diuretic. Attention should therefore be paid to the fact in using digitaline.

"The dose to be administered is stated by MM. Homolle and Quevenne at a seventy-fifth part of a grain of digitaline, three times a day. I have never given any other dose. It is a very small one certainly. But a tenth of a grain will kill a little dog; so that the dose is only in proportion to its exceeding energy. The form I have used is that of a pill about a grain in weight. It is to be given with the conditions and precautions observed in using foxglove.

"Digitaline may be extracted from any part of the *Digitalis purpurea*; and it has also been obtained from the *D. lutea*. The leaves of the former yield as much as any other part of the plant, even as the seeds, and more conveniently. The dry powder is first saturated with cold water by the process of displacement. The di-acetate of lead is then added, to throw down much inert matter. The excess of lead is removed by a mixture of carbonate and phosphate of soda. Lime is next thrown down by oxalate of ammonia. Digitaline in an impure state is now precipitated by tannin, collected, and dried with a gentle heat, after being mixed with litharge, to detach the tannin. The dry powder is then made to yield a dry alcoholic extract by means of alcohol of the density of 836. From this extract, impurities are washed away with a little highly-concentrated sulphuric ether. Digitaline alone remains.

"The process is troublesome, but will probably be simplified. The product is consequently expensive. But, after all, a cure with it is not costly, by reason of its extreme energy. It is of good quality, if a solution in 200 parts of alcohol do not lose its bitterness until so diluted with water that the digitaline forms only a 200,000th of the solution.

"Digitaline of this degree of purity constitutes pale yellowish-white scales, easily pulverizable, intensely bitter, intensely irritating to the nostrils, and permanent in the air. It fuses about 212°, and under-

* Edin. Monthly Journal of Medical Science, 1850, xi, p. 310.

† Dispensatory, 1842, p. 401.

goes decomposition at a temperature somewhat higher. It is neutral, and destitute of azote; soluble in 2000 parts of water, and in 100 parts of pure sulphuric ether; very soluble in alcohol, and still more so in chloroform. It cannot be crystallized or combined with acids. Strong hydrochloric acid forms with it a beautiful grass-green solution. Potash added to its watery solution destroys its bitterness, and substitutes astringency. The alkaline carbonates and caustic ammonia have the same effect, but act more feebly. Tannin throws it down from its solution in water.

"Foxglove yields by analysis three other neutral proximate principles, which MM. Homolle and Quevenne have called digitalose, digitalin, and digitalide; but it may be surmised that these are the results of chemical reactions, and not true educts. There seem to be also three vegetable acids, called digitalic, antirrhinic, and digitoleic acids.

"Bouchardat and Sandras found that the seventh of a grain of digitaline, injected into the jugular vein of a dog, soon caused frequent vomiting, staggering, diminution of the pulse from 120 to 36, giddiness, and death in four hours and a half. A grain and a half caused death in 90 seconds. Three-fourths of a grain secured in the stomach caused violent efforts to vomit, extreme exhaustion, and death in three hours. In the dose of a twelfth of a grain they found that in man it occasions reduction of the pulse to one-half or two-thirds of its natural frequency, with disturbance of the senses, confusion, and fatiguing dreams, but only in one instance an increased flow of urine. Stannius ascertained that, in animals killed by digitaline, the heart, immediately after death, is motionless, and not excitable by galvanism, or any mechanical stimulus; while the voluntary muscles and intestinal muscles continue irritable as usual.

"MM. Homolle and Quevenne have given in their treatise many cases of their own and of others, on the internal action and uses of digitaline. The general result is, that, in the dose of a 75th of a grain, given three times a day, it usually acts as a diuretic in general dropsies, and with great speed and efficacy in reducing the effusion; that this action on the kidneys is not so certain where there is no dropsical effusion, but nevertheless may be often brought on in other circumstances also; and that it is not rendered more certain by any material increase of the dose. The next result is, that in about double the dose, and sometimes in the same dose, it reduces greatly the frequency of the heart's action, arresting at the same time irregular action of functional origin, and even sometimes that connected with organic disease of the heart, and relieving palpitation. Lastly, the dose cannot reach the twelfth of a grain without nausea and other incipient symptoms of poisoning showing themselves."

On the Properties of the Ordeal Bean of Old Calabar. By R. CHRISTISON, M.D., Professor of Materia Medica in the University of Edinburgh. ('Monthly Journal of Medicine,' March, 1855.)

Dr. Christison prefaces his remarks upon the ordeal-nut, with some remarks upon the ordeal poisons of the negro-tribes of Western Africa. The poison generally used is an infusion of the bark of the *Fillæa suaveolens* and the *Erythrophleum Guineense*, two leguminous trees. If a man is accused of any heinous crime, and particularly of witchcraft, he is made to drink this infusion, and he is supposed to be guilty if he dies, or remains permanently injured by the effects of the poison; and according to this test few are accused wrongfully. The ordeal-bean, however, appears to be far more energetic than the barks in question, and there is reason to believe that it is the most singular and intense poison yet known.

Dr. Christison gives some very interesting particulars about the ordeal, but these we must omit, in order to leave space for his own personal experience in the matter—an experience which is much too interesting to allow of abbreviation.

"The ordeal-nut of Calabar, called *Esére* by the natives," writes Dr. Christison, "is a leguminous seed or bean, about the size of the garden bean, but thicker. According to one account I have received, it is not produced in the Calabar district, but is floated down the river from the upper country. This is possible, for it floats in water; but it is not very likely. According to information communicated to me by Dr. Daniell, it was stated to him by the natives to grow in marshy places near Attarpah and Old-town in Calabar; and the Rev. Mr. Waddell was informed that the plant is everywhere destroyed by order of the king, except where it is preserved for supplying the wants of justice; and that the only store of seeds is in the king's custody.

"The seed is, I apprehend, quite unknown in Europe. Of several eminent botanists, including Mr. R. Brown, to whom I have shown it, no one has been able to recognize it as a known species. In order to describe it, it has been cultivated at my request by my colleagues, Professor Syme and Dr. Balfour, and both have succeeded. It proves to be a perennial creeper, of the natural family, *Leguminosæ*, and closely resembling a *Dolichos*. It has a large root-stock. The fresh plant has a heavy, strong smell, after being some time cut. Though two years old, it has not yet flowered; and, like other perennial creepers, it may require to form wood for several years longer before it bears flowers. I am therefore unable to describe it farther, or to name it.

"It has a hard, brittle, ligneous tegument, rather rough, and of a brownish-crimson or pale chocolate-brown colour; but many specimens are ash-grey, apparently from slight mould. The kernels, which weigh from 36 to 50 grains, are always in good preservation, and never injured in the slightest degree by insects—a rare occurrence with tropical seeds. They are white and hard, but may be chewed; and they have the taste of the eatable leguminous seeds,

without bitterness, acrimony, aroma, or any other impression on the organs of taste; in fact, they are scarcely, if at all, distinguishable in taste from a haricot-bean. This is a formidable peculiarity, were it possible for the seed to become a familiar poison in Europe. So far as I know, the property in question is peculiar to it, for all other poisonous seeds of the Leguminosæ, with which we are sufficiently acquainted, are bitter. The blandness of its taste is indeed so unusual a character that I was at first misled, and imagined that I had probably got a wrong and harmless seed; but I soon found that I was much mistaken.

"I began a chemical examination of it, with the hope of separating an active proximate principle, which assuredly must exist in it, and will prove to be a poison of appalling subtilty. But with my limited materials success was unattainable; for leguminous seeds are difficult to analyse; and in this instance there is the additional obstruction, that at every stage the want of any marked sensible property makes it necessary to perform a physiological experiment on one of the lower animals, otherwise we may follow a wrong direction in the search. All I can say is, that the seed, like others of its natural order, contains much inert starch and legumin, and 1·3 per cent. of fixed oil, also probably inert; that its active properties may be concentrated in an alcoholic extract, which constitutes 2·7 per cent. of the seed; and that this extract does not yield a vegetable alkaloid by the more simple of the ordinary methods of analysis.

"I shall now proceed to mention what I have observed of the effects of the ordeal-bean on the animal body. These are interesting, energetic, and in some respects peculiar, as it seems to affect directly and violently the functions of the heart, and the exercise of volition over the muscles.

"When a poison impresses powerfully both the circulation and some function or functions of the nervous system, it is a matter of great nicety to eliminate the true phenomena, especially by observation upon the lower animals alone.

"We know that some poisons, such as strychnia, and the various seeds and barks which contain it, cause, by direct irritation of the spinal chord, violent tetanic spasms of the voluntary and respiratory muscles, without impairing sensation, or enfeebling the heart, or clouding the mental faculties; and thus they occasion death by convulsive arrestment of respiration. Others, such as the urari poison, and conia, or hemlock from which it is derived, cause, by direct exhaustive action of the spinal chord, the opposite state of paralysis of the voluntary and respiratory muscles, but still without influencing the heart, or sensation, or the mental powers; and so death arises in their instance from arrestment of respiration, by simple paralysis of the muscles which maintain it. Others, again, such as atropia, or belladonna, the plant which yields it, principally assail the functions of the brain, at first combining stimulus of some with exhaustion of others in the most singular and often grotesque concatenation, but inducing at last a state of profound coma, and as the result of this a universal muscular paralysis; and thus death ensues, equally as before from arrestment of the breathing, not however by direct action on the

origin of the nerves which govern the muscles of respiration, but indirectly, through an influence on the cerebral functions, exactly as in ordinary apoplexy. We can likewise conceive a poison to possess only a simple and direct action upon the heart, producing exhaustion of its irritability, paralysis, and consequently death, by arrestment of the circulation; but no such poison is yet known.

These are all instances of simple action on a single vital function. But many poisons exert a more composite action. Some, such as nicotina, and its source, tobacco, produce paralysis of the heart, and also a narcotic action on the brain. Others, such as fox-glove, and in all probability its active proximate principle, digitaline, not only possess this double action on the heart and brain, but likewise powerfully irritate the kidneys. Others, such as hydrocyanic acid and picrotoxa, the active constituent of *cocculus-indicus*, exhaust the functions of the brain, so as to induce coma, and at the same time irritate the spinal chord, so as to excite convulsions; and thus, here again we have death produced by arrestment of the breathing, indirectly through the brain, but concurrently with direct spinal irritation. In others, such as aconitina, and its source, monkshood, there is a singular combination of exhaustion of the heart's irritability, and of common sensation, but without any influence on the voluntary muscles, or on the mental faculties; and death arises by arrestment of the circulation.

"It is easy to see,—on considering attentively what must be the manifestations of these various actions, both simple and compound, but especially the latter—that extreme difficulty will often occur in seizing and rightly comprehending the facts, above all when the succession of phenomena is swift, and when the subject of observation is one of the lower animals, which cannot adequately express by external signs the varying influence of agents on sensation and the other cerebral functions.

"Hence it arises that many erroneous conclusions have been come to regarding the action of our most potent and interesting poisons. Take for example hemlock. This formidable poison was long supposed to cause death by coma, that is, a narcotic action on the brain. But I have shown in a paper published in 1836, that the mode of death is really by paralysis of the muscles and arrestment of respiration, through an exhaustive influence on the spinal chord. And it is easy to see where the source of error lay. For, when the muscles are paralysed, sensation and the mental faculties will seem to a common observer to be paralysed also; because the animal mechanism for producing expression is at rest.—It appears that many persons think it an easy task to investigate experimentally the physiology of poisoning. But they are assuredly mistaken. A long apprenticeship must be passed before any one can observe with accuracy the phenomena of the action of poisons.

"These cautions are prefatory to the remark, that it is a matter of great nicety to apprehend the deceptively simple manifestations of the action of the ordeal-bean on the lower animals. Scarcely do signs of uneasiness appear after a fatal dose has been given, when the animal becomes in quick succession languid, prostrate, flaccid,

immovable; respiration, now faint, speedily ceases; and death is complete. It may thus appear to die insensible and comatose. But this is not the case. So long as the power of expression remains, amidst the swiftly advancing languor, signs of sensation may be elicited. Or we might infer from the phenomena that it dies of paralysis of the voluntary and respiratory muscles. But this too is in all probability not the fact. For, on dissection immediately after respiration ceases, the heart is found in a state of paralysis; and it is evident that a quickly increasing paralysis of the heart not only explains the mode of death, but might likewise account for the antecedent muscular weakness and flaccidity.

"These effects were well exemplified in the first experiment I tried, when twenty-one grains of fine powder, made into an emulsion with two drachms of water, were secured in a cavity in the subcutaneous cellular tissue of the flank of a rabbit. For three minutes there was no appreciable change. But the animal then evidently became weaker, especially in the hind legs. Its feebleness quickly increased, and was attended with slight irregular twitches of the muscles of the trunk and extremities, and occasional twitching of the head backwards. But sensation remained; for the animal struggled a little when held up by the ears, and resisted attempts to shove it from behind. In four minutes, when put upon the side, it lay in that position; which the rabbit always vehemently resists so long as it is able. The trunk and extremities immediately afterwards became quite flaccid. Respiration ceased in five minutes certainly; probably indeed sooner; but the precise time could not be fixed, owing to continuance of slight muscular twitches. The chest being immediately opened, the heart was seen pulsating slowly, feebly, and inefficiently for ten minutes; and when its cavities were then perforated, the left side gave out a much brighter blood than the right, showing that the circulation, owing to paralysis of the heart, had not been maintained after respiration had ceased. The muscles of voluntary motion contracted at this time vigorously under the stimulus of galvanism, and continued to do so twenty-five minutes after death.

"The same remarkable properties are possessed by the alcoholic extract of the seeds. When two grains and a third of this extract, obtained from one hundred grains of powdered seeds, were introduced into the cellular tissue of a rabbit in the same way as before, at the end of two minutes, without any previous indication, the animal suddenly became weak, fell on its side, struggled a little with its feet, and ceased to breathe in one minute more. On the chest being immediately laid open, the same phenomena were observed as in the last experiment.

It is evident that this poison is one of great intensity of action upon the lower animals; but I have not endeavoured to ascertain exactly its degree of energy. I may mention, however, that on making trial of the exhausted powder from which the extract used in the preceding experiment was prepared, although no effect could be detected in the course of an hour, in ninety minutes the animal was observed to become suddenly weak, and it died in a few minutes

more exactly like the others. The result, which appeared unintelligible at first, was afterwards satisfactorily traced to the residual farina not having been carefully enough washed clear of the second spirituous decoction; so that a little of the poisonous ingredient was inadvertently allowed to remain before the farina was dried. The quantity must have been very small.

The only other fact I have to mention relative to the action of the seed on the lower animals, is one observed incidentally by Mr. Macnab. As the seed vegetates, the two fleshy cotyledons or sarcolobes rise partially above ground. In this state one of the seeds growing in the Botanic Garden stove-house was attacked by two slugs, one on each cotyledon. Mr. Macnab observing that one of them had begun to swell about the head, he removed it for further observation; and in twenty-four hours it was found dead.

“Having ascertained the mode of death from the action of the ordeal-bean, I did not consider it advisable to study farther the details of its action by means of experiments on animals, because I had been fully informed as to this in a more precise manner by an experiment made with the bean in my own person. I shall conclude this notice with an account of what I experienced; and I trust the details will not appear needlessly minute, as they seem to me to establish an action of a very singular kind in the case of this poison, and one of which we might discover other instances among known poisons, had we equally precise opportunities of determining the true phenomena.

“Having some doubts whether I had obtained the true ordeal-poison, as it tasted so like an eatable leguminous seed, I ate one evening the eighth part of a seed, or six grains, about an hour after a very scanty supper. During an hour that I passed in bed reading, I could observe no effect whatever, and next morning I could still observe none. I am now satisfied, however, that a certain pleasant feeling of slight numbness in the limbs, like that which precedes the sleep caused by opium or morphia, and which I remarked when awake for a minute twice or thrice during the night, must have been owing to the poison.

“On getting up in the morning I carefully chewed and swallowed twice as much, viz., the fourth of a seed, which originally weighed forty-eight grains. A slight giddiness, which occurred in fifteen minutes, was ascribed to the force of the imagination; and I proceeded to take a warm shower-bath; which process, with the subsequent scrubbing, might take up five or six minutes more. The giddiness was then very decided, and was attended with the peculiar indescribable torpidity over the whole frame which attends the action of opium and Indian hemp in medicinal doses. Being now quite satisfied that I had got hold of a very energetic poison, I took immediate means for getting quit of it, by swallowing the shaving water I had just been using, by which the stomach was effectually emptied. Nevertheless I presently became so giddy, weak, and faint, that I was glad to lie down supine in bed. The faintness continuing great, but without any uneasy feeling, I rang for my son, told him distinctly my state, the cause, and my remedy—that I had no feeling of alarm, but that for his satisfaction he had better send for a medical friend. Dr.

Simpson, who was the nearest, reached me in a few minutes, within forty minutes after I ate the seed, and found me very prostrate and pale, the heart and pulse extremely feeble and tumultuously irregular; my condition altogether very like that induced by profuse flooding after delivery; but my mental faculties quite entire, and my only sensation that of extreme faintness, not, however, unpleasant. Dr. Simpson judged it right to proceed at once for Dr. Douglas Maclagan as a toxicological authority, and returned with him in a very few minutes.

"In his absence, feeling sick, I tried to raise myself on my elbow to vomit, but failed. I made a second more vigorous effort, but scarcely moved. At once it struck me—'This is not debility, but volition is inoperative.' In a third effort I was more nearly successful; and in the fourth, a resolute exercise of the will, I did succeed. But I could not vomit. The abdominal muscles acted too feebly; nor were they much aided by a voluntary effort to make them act. I then gave up the attempt, and fell back, comforting myself with the reflection that vomiting was unnecessary, as the stomach had been thoroughly cleared. At the same time the sickness ceased, and it never returned. There were now slight twitches across the pectoral muscles. I also felt a sluggishness of articulation, and, to avoid any show of this, made a strong effort of the will to speak slowly and firmly, through fear of alarming my son, who was alone with me.

"Dr. Maclagan, on his arrival, thought my state very like the effects of an over dose of aconite. Like Dr. Simpson, he found the pulse and action of the heart very feeble, frequent, and most irregular, the countenance very pale, the prostration great, the mental faculties unimpaired, unless perhaps it might be that I felt no alarm where my friends saw some reason for it. I had, in fact, no uneasy feeling of any kind, no pain, no numbness, no prickling, not even any sense of suffering from the great faintness of the heart's action; and as for alarm, though conscious I had got more than I had counted on, I could also calculate, that, if six grains had no effect, twelve could not be deadly, when the stomach had been so well cleared out.

"Presently my limbs became chill, with a vague feeling of discomfort. But warmth to the feet relieved this, and a sinapism over the whole abdomen was peculiarly grateful when it began to act. Soon afterwards the pulse improved in volume, but not in regularity. I was now able to turn in bed; and happening to get upon the left side, my attention was, for the first time, directed to the extremely tumultuous action of the heart, which compelled me to turn again on the back, to escape the strange sensation. Two hours after the poison was swallowed, I became drowsy, and slept for two hours more; but the mind was so active all the while, that I was not conscious of having been asleep. On awaking, the tumultuous action of the heart continued. In an hour more, however, I took a cup of strong coffee; after which I speedily felt an undefinable change within me, and on examining the condition of the heart, I found it had become perfectly and permanently regular.

"For the rest of the forenoon I felt too weak to care to leave my bed: and on getting up, after a tolerable dinner, I was so giddy as to

be glad to betake myself to the sofa for the evening. Next morning, after a sound sleep, I was quite well.

“On considering this narrative, as well as the experiments on the rabbit, it will appear evident that one principal action of this extraordinary poison, and the immediate cause of death in fatal cases, is depression, ending in paralysis, of the heart. I think it may be also safely inferred, that another action is paralysis of the voluntary muscles, attended with suspension of the influence of volition. It does not appear to me that mere faintness is adequate to account for the extreme muscular inability I experienced; neither do I conceive it possible for me to have been deceived by the strong conviction I felt of the will being inoperative in its influence over muscular motion. My failure reminded me forcibly at the moment of a phenomenon invariably remarked during the impaired acuteness of the mind which often attends the early stage of hemiplegia. When the patient is told to stretch out the palsied arm, he stretches out the other, however pointedly the physician turns his attention on the powerless limb, and even though the patient himself keeps his eye on it; thus clearly showing that the will orders, though the muscles cannot obey.

“The integrity of the mental faculties, during the prostration of that cerebral function which conduces to the operation of the will or muscular action, was most remarkable. The minute details I have given are chiefly intended to illustrate this point; and I am persuaded that I have not overstrained any one article of evidence on that head.

“The apparent efficiency of coffee, in removing what remained of the poisonous action after five hours' duration, is not unworthy of notice. Every physician knows that coffee is used for dispelling the after effects of various narcotic poisons; but its real utility has been doubted. In the instance of the present poison, the *post hoc* at least was both very prompt and most complete, so far as the main symptom, the irregular heart, was concerned; and I have myself no doubt of the reality of the curative action.

“Whether the extraordinary power, which this poison possesses in depressing the action of the heart, may be susceptible of application in the exercise of the healing art, is a question which time and experiment will alone enable us to answer. Its mere potency is no objection, when it is considered that drugs so potent in poisonous energy as hydrocyanic acid, aconite, and digitaline, are now firmly established in medical practice as safe and efficacious remedies.

“Let me advert lastly to a peculiarity in the action of the ordeal-bean which struck me forcibly while labouring under it. Philosophers have thought it not unworthy of inquiry, how in criminal executions death may be completed without physical suffering to the criminal. Governments have even consulted science on the subject. But science has not yet satisfactorily solved the question. Meanwhile, I suspect it has been accidentally solved by the negroes of Old Calabar. At least, so far as the effects of their state-poison on myself went, there was no bodily uneasiness except the single attack of sickness—apparently the relics of the action of my peculiar emetic,—but simply a sense of sinking vitality, with clearness of mind, and without any

sensation deserving in the slightest degree to be called physical distress. We know, indeed, that many forms of extreme fainting, of which this is evidently one, are attended with feelings, which, if not positively pleasurable, are certainly quite unallied to pain. Death by simple fainting, without any preparatory painful process, is evidently what a humane execution should aim at producing. And all this, I apprehend, will be effected by the Calabar Ordeal-bean."

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6. The Diagnosis of Diseases of the Brain, Spinal Cord, Nerves, and their Appendages. By J. Russell Reynolds, M.D., Lond. 8vo, 1855, pp. 251.
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20. On the Use of Creosote in Scorbutic Camp Dysentery. By John Bramston Wilmot, M.D., F.R.C.P. 1855, pp. 16.
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